

Academic Writing

Olga Zamaraeva
UDC/CITIC
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(Thanks to my PhD advisor Emily M. Bender for some of the material!)

Survey!

- How many of you are:
 - Students
 - Postdocs
 - Professors?
- **What** do you usually write?
- How many of you **love** writing?
- How many of you **hate** it?

Overview

- **Goals** of writing
 - I will focus on writing academic **papers**
 - vs dissertations, proposals, and job applications
 - but most advice applies
- Aspects and **tensions** of writing
 - Intellectual, psychological, technical
 - Writing and **Reading**: Role of Critical Reading
- **Structured** writing
- Recap: Common **problems** and some **tips**
- **Books** about writing

Goals and Expectations

*Academic work that was not written up
does not exist*

*Academic writing that was not understood
does not exist either*

Goals: What/Who/Why

- What: Project write-ups, theses, conference papers, articles, funding proposals, job applications...
- Who: Instructors, committee members, reviewers, other researchers, other students
- Why: Satisfy requirements, disseminate results, **clarify ideas**
 - **You don't really know how well you understand something until you've written it!**
 - Your work **evolves** significantly as you write it up

Expectations

- Academic writing should be:
 - Original
 - Clear (if writing is not clear, nobody will read it)
 - Concise, but not terse: your thought process is important
 - Well-structured
 - Proof-read (and spell-checked)
 - Supported with citations

Goals and Expectations

- You have to write; there is **no other way** to do academic work
- You have to learn how to write **fairly well**
 - otherwise your work is **lost**
- **Good news:**
 - Writing is a **skill** and can be improved significantly through exercise

Common sources of problems

- **Procrastination** (aka Perfectionism)
- Failure to get **feedback**
- ...together, lead to:
 - insufficient editing
 - lack of clarity and focus
 - unconvincing, weak, ineffective writing
 - ...not writing :)

Aspects of writing

- **Intellectual**
- Psychological
- Technical

Aspects of writing: Intellectual

- **You and coauthors** are creating intellectual property
- A record of your ideas, argumentation, and results...
 - focused on a **research question**
 - ...which others will hopefully be able to build on
 - so you need to **structure** your writing appropriately
 - and which normally is built on **previous work**
 - which you've **read**

Research question

- Every research paper should have a **clearly** stated **research question**
 - What have we **as a field** learned from your research that we did not know before?
 - Sometimes this is the **hardest** part
- **Tension:** work more (reading and experiments) vs start writing
 - **Varies** but I'd argue for **not** delaying (because of the risk of **never** writing)
 - Focus on what you **already know** well (e.g. related work? Or methods)
- “**Robust RQ**”: the answer is more than “yes” or “no” (Foss and Waters, 2007)

Writing and Reading: Critical reading

Writing and Reading: Critical reading

- In general, the **more** you **read**, the **better** you **write**
 - ...don't forget to write though!
 - (beware of perfectionism)
- Reviewers/evaluators engage in critical reading
 - ...so you want to understand what it is and practice it
 - ...including applying it to your own writing

Critical reading

- **Actively** engaging with a text, going **beyond** simply following along.
- Critical reading is **not** criticizing:
 - You can read a text critically and end up liking it or disliking it.
 - In either case, you'll know better **why**.

Critical reading questions

- What is the **research question** that the article asks?
- What **assumptions** are involved in framing the research question?
- How is the work situated with respect to **previous work**? Are the differences spelled out clearly?
- How were the **data** gathered?
- What **sources of evidence** were brought to bear?
- How is the **evaluation** done? Are the **metrics** appropriate?
 - Are the **test data** selected so that the results will likely generalize?

Critical reading

- **Actively** engaging with a text, going **beyond** simply following along.
- will help you write better and better meet the **expectations** of your readers

Multiple Authorship

- The Vancouver Protocol states that in order to be credited as an author, each and every author on a publication needs to have been involved in the:
 1. Conception and design, or analysis and interpretation of data AND
 2. Drafting the article or revising it critically for important intellectual content AND
 3. Final approval of the version to be published.

<http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>

Plagiarism: Not OK


- Anything not in direct quotes (with an associated citation) should be in your own words
- Any ideas that come from someone else, **even if stated in your own words**, need proper attribution (citations, or “p.c.”—personal communication)
- **All statements in an academic paper** should be supported by **one** of:
 - The **original experiments presented** in the paper
 - **Citation** to previous literature
 - **Logical** argumentation in the paper
 - NB: the phrase “we argue that...” is not logical argumentation

So what about ChatGPT?

- Does using ChatGPT for writing constitute plagiarism?
- We will wait for any regulations/opinions coming from governments etc
- My opinion: **Likely Yes**. ChatGPT is trained on other people's texts.
 - It is mimicking those other texts (without attributing authorship)
 - Copying and pasting from ChatGPT may be indirect plagiarism
 - probably OK to use for some purposes but not for creating your intellectual property
 - if **you** have **already** written something, *may* be ok to use it to rephrase etc...

Aspects of writing: Psychological

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- Fear and procrastination; perfectionism
 - ...very normal
- No panacea... Some tips:
 - “Active procrastination”
 - think of a task which you want to do even less 
 - Editing is **much** easier than facing a blank page
 - ...and writing something which **will be edited later** is easier than writing something correct and perfect!
- Please, please **show your writing to others**. You won't regret it!

A note about editing

- While editing is easier than writing from scratch...
 - ...it takes a long time
- Any decent text has gone through **multiple rounds** of editing
- You need **at least** a day (preferably **much** more) **between any two rounds**
- Bad news:
 - If you procrastinated start of writing, you will not have a decent text
- It is crucial to write **at least something** as early as possible
 - ...then at the end, you **will** have a decent text

Your paper isn't going to write itself

Aspects of writing: Technical

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- Editors:
 - MS Word or Google Docs or similar
 - LaTeX
 - locally
 - via Overleaf
- Crucial features:
 - **Back up**
 - Bibliography management
 - Collaboration
 - Graphs and formulae

Aspects of writing: Technical

- Editors:
 - MS Word or Google Docs or similar
 - LaTeX
- **Tension:** “ease of use” (learning curve) vs scalability
 - particularly for slides, but also papers

Aspects of writing: Intellectual, Psychological, Technical

- Academic knowledge is lost without writing
- You are creating intellectual artifacts
- It's not easy and a big responsibility but you can do it
- There are many challenges in writing which are not only intellectual in nature
 - There is not one recipe how to solve the challenges:
 - some tensions are always going to be there
 - the key is to work consistently and not give up!

Structured writing

- In any paper or thesis-length document, there should be **sections**
 - (and sometimes **subsections**)
- Last paragraph of the introduction should give an **overview** of the sections of the paper
- **Each** section should end with a brief **summary** of what the section did
 - together **with a look-ahead transition** to the next section

Abstract & introduction

- The abstract (if present) and intro should present the **research question**
 - ... as well as the short version of the **answer!**
 - Research papers are not mystery novels :)
- The intro also relates the specific question to larger areas of concern
 - ... but you don't have to go back to Aristotle or Pāṇini
- Introductions are often **the hardest** to write
 - write them **last!**

An effective introduction template

- (from Karen Kelskey)
- *Topic X is important* and scholars A and B have examined it. However, nobody to date has yet addressed Y—and without Y we remain ill-informed about a side of X that is essential to our field*
 - * *(obviously, you need to substantiate the above with evidence, but you should be concise still)*

Related work / Literature review

- Overview of relevant previous work
 - not **all** previous work, unless this is a dissertation
- Not just showing that you've read it!
- Not just reciting what's in it!
- Telling the story of what's gone before from the perspective of what you're doing now

Results and discussion

- Tables should be as **easy** to understand as possible
 - Avoid multidimensional graphs **if only possible**
- **Each** table and figure should be mentioned in the text
 - Go through your text and **check** each!
- Discussion should be **meaningful**
 - Do not simply describe the tables in words

Conclusion

- Conclusion is **not that hard** after you have written everything else
- **Summarize** what you have written in **simple, positive** terms
 - just do what you can here :)
- **Do not** introduce new ideas or material in the Conclusion!
 - it is **distracting** and **destroys** the structure of everything so far
 - reviewers **really** don't like that
 - (It's OK to just say: "In future work, we will do X" - but if you need details, then you need a **separate section** for Future Work)

Recap of common problems and solutions

Common sources of problems

- **Procrastination** (aka Perfectionism)
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- ...together, lead to:
 - insufficient editing
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Good solutions to common problems (advice from Emily M. Bender)

- Write **poorly**
 - Produce any sort of short, horrible, incoherent draft
 - you'll see how much easier it will be to edit it!
- Write **out of order**
 - Start with anything about what you already know what to say
- Write **as you implement**
 - (rather than waiting until all work is done)
 - (spoiler: the work is never done)
- **Force** yourself to show your stuff to as many people as possible
 - Use **each other** as a resource

Other writing advice (from Karen Kelsky)

- Banish **laundry lists and hypnotic dyads**, they are boring:
 - “...these findings challenge and refine...” “we implement and present...”
- **Show don't tell**; facts, not emotions
 - dead give-away of emotions: **adjectives and adverbs**. Banish them!
 - *striking, serious, big, intense, remarkable, very, really...*
 - the above are **not** making your writing more impressive or convincing
- Get rid of the **aggrieved stance**
 - Never be sarcastic or bitter about other researchers/lines of research
 - It won't help you

All writing is a great opportunity

- Even if your paper/grant gets rejected, or you have to rewrite a thesis chapter from scratch...
 - writing it is a great opportunity for you to:
 - understand your topic better
 - refine your ideas
 - discover more about the significance of your project with respect to different realms

Resources

- *Destination Dissertation.* Foss & Waters 2007
- *Bird by Bird: Some Instructions on Writing and Life.* Lamott 2007
- *The Professor is in: The Essential Guide to Turning Your Ph.D. into a Job,* Kelskey 2015

THANK YOU!

olga.zamaraeva@udc.es