



Academic Life

4 Common Mistakes Every PhD Student Should Avoid

by Marialuisa Aliotta

No matter what stage you are at in your PhD studies, the prospect of writing up your thesis is always looming at the horizon. Undoubtedly, writing a PhD thesis is a major undertaking with so much to learn in terms of writing skills, conventions, formatting, style, you name it. It is no wonder that most students do not find this an easy task. Yet, your writing up can (and should!) be an enjoyable process and there are ways to make sure that this is the case. Indeed, avoiding some traps and wrong mindsets can be all you need to save yourself months of frustration and stress. In this brief guide, I have highlighted four of the most common mistakes of PhD students in the hope that being made aware of them can be the first step for you to avoid falling in similar traps. If you manage to do so, the benefits can be enormous and you will be much more likely to enjoy the process of writing up. It is my hope that this brief guide will help you achieve exactly that.

WHO AM I TO TELL YOU WHAT TO DO (OR NOT TO DO)?

This is a very legitimate question. So let me explain.

I have been in your shoes! In fact not once, but twice! No, do not get me wrong, I do not hold two doctorates (going through one was enough, thank you! ☺). The fact is that I graduated in Italy at a time when even undergraduates were required to submit a written thesis on a piece of research. So, that's what I did. I wrote my thesis. Sadly, it was not as simple as it sounds.

I still remember the very first time I handed in a draft of my first chapter to my supervisor feeling very proud of what I had done and looking forward to a rave review. A few days later, when I went in to meet up with him and discuss my progress, I did so in a state of great anticipation and while I did not exactly expect a pat on my shoulder, I was confident I would get a big, resounding "well done!".

Boy, was I wrong! What I got back was a printed out version of my chapter completely scribbled in red pen and full of marks, corrections, and large crosses through entire paragraphs. It was painful. Everything seemed to be wrong: the style, the ordering, the flow of arguments. I remember leaving my supervisor's office with a sense of desperation and the certainty that I would never make it to graduation. To make things worse, I was left with a sense of disbelief. How was this possible? After all, I had always been a very conscientious student; one who used to take up notes regularly while studying; one who knew where to look for every paper I had read; one who had always been strongly motivated to do well and to succeed. I was incredulous.

Luckily, my supervisor had seen plenty of the same throughout his career and did not seem discouraged in the least. He said it was a good start. What?! You must be crazy - I thought - A good start? How come then that there is so much red ink all over the pages? - I wondered. As if he could read my thoughts, he continued, placidly, that the key thing was that at least there

was some content to work with. There was still plenty to improve on the structure and on the style, he said, but at least the content was there. He had seen worse! - he added. I gasped.

The months that followed were not a bit less painful than our first encounter. On countless evenings I went back home with an intense feeling of discouragement and desperation at the looming prospect of never managing to write something that would stand the test of standards my supervisor expected of me. Yet, week after week, by cutting (literally, with scissors!) and pasting (literally, with glue!) and writing and editing, I finally got the hang of it. I started to see what I was doing wrong, what I needed to change, how I was supposed to express concepts, findings, and methods, and slowly, page after page, I learned the process of writing a thesis.

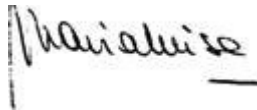
With hindsight, I am actually very pleased that this is the way things went for me, because I learned a lot! I learned how to structure my writing properly, how to make sure the logic flow was right, how to separate methods from results, how to use the appropriate scientific style. In turn, this was a blessing for my PhD, because when it came to writing up my thesis I knew exactly how to do so and did not waste any time in trials and errors. Interestingly, I now realise that if I had been good straightaway I might have never bothered to find out what I was doing right, how, and why. Now I do, and I can help others to do the same.

Nowadays, when one of my students hands in a report or a chapter of their thesis, I know that very likely they will come back to me a few days later with the same sense of anticipation I had then. And they too, will leave my office feeling a similar sense of frustration when realising there is still so much they have to work on. Luckily, most of the times, my assessment of their work is often the same as that of my supervisor. "At least, the content is there - I say to them with the most encouraging tone I can muster. Now let's work on everything else."

Yet, year after year, I have found that PhD students stumble upon the same mistakes not as much in their actual writing (though there are some recurring themes there as well), but more in their attitude to the whole "writing up" business. That's where this brief report comes in. Here, I list the four most common mistakes students make when writing up and show why making them is actually a problem. Luckily, there are strategies and tips that you can follow to avoid these and similar traps. Sometimes, all you need is someone to show you how to do it.

So, I provide suggestions for what you can do instead and indicate the benefits that you can gain by doing things differently. This brief report has been written with you in mind in the hope that avoiding these mistakes will save you lots of time and frustration when you eventually will sit down and write up! I hope you'll find it useful. Just let me know. I'd love to hear back from you.

To your success!

A handwritten signature in black ink, appearing to read "Marialuisa", with a short horizontal line underneath.

MISTAKE #1

YOU WRITE TOO MUCH BEFORE ASKING FOR FEEDBACK



Why does this happen?

Presumably you want to make an impression on your supervisor and do not want to submit anything that you would not be happy with. So you try to write and rewrite and polish and try to get things perfect straightaway. Or maybe, you think you are already quite good at writing (after all you always submitted excellent work in your undergraduate studies) and you think you do not need any feedback. Bottom line: you write too much without any supervision.

Why is that a problem?

Because very often you will end up rewriting most of it anyway! Unless you have already acquired a strong understanding of good academic writing, chances are that there will be something not quite right in terms of structure, style, logical flow of content, bibliographic conventions, formatting of figures and tables, just to cite a few examples. I know through personal experience how frustrating it can be to receive back the feedback on your work and realise that most of what you have written has been marked in red! It is disheartening,

frustrating, and downright off-putting. You start worrying whether you'll ever manage to produce anything that even remotely resembles a good PhD thesis.

What can you do instead?

In fact, before you even write a single word of any of your chapters, you must FIRST and FOREMOST write an outline. Discuss this thoroughly with your supervisor, make sure (s)he is happy with it and agrees to the overall structure and the logical flow from one chapter to the next. Make sure you are on the right track or find out what you can do to improve. Once this first step is out of the way, start writing a few sections, or one chapter at most, and ask feedback as soon and as frequently as possible. Ask also other people who have been there before you. Read the dissertations of previous students in your group and develop a critical approach. Do you like what you read? Was it clear? If not, why? What is the problem? Finding out the answers to these questions can be an excellent first step to learning how to write better.

What benefits will you get?

You'll learn to write better and to improve your style as you progress but, more importantly, you'll learn to do things right the first time round in your later chapter drafts. This will save you an incredible amount of time, frustration, and anxiety. Not a little gain when working under pressure!

OVER TO YOU

Pick up someone else's PhD thesis in your own area (not necessarily your specific subject) and browse it to assess how much of the following has been accomplished:

- Does the thesis have a well-structured layout?
- Is the title of each chapter, section, sub-section clear and informative?
- Is it clear what the thesis' central focus is?
- Are figures and tables clear and informative? Do they stand alone or do you need to read the text to understand what they are about?
- Are all references properly formatted so that you would be able to trace each?

MISTAKE #2

YOU HAVE (OR ARE PLANNING TO) SET ASIDE TOO LITTLE TIME FOR WRITING UP

Why does this happen?

This is a very common mistake and it appears that most students overrun when writing up. If this is happening to you, likely reasons will lie in one or more of the following: you grossly underestimate(d) the time it takes to write a thesis; you are (have been) running late with your data analysis; you procrastinate(d) making a start.



Why is that a problem?

Not setting aside enough time for your write up can have disastrous consequences on the quality of the work you'll produce and can be extremely detrimental to your health and peace of mind. Things will have to get done in a rush and you will have to subtract time to your much-needed sleep at a time of likely stress. I can't count the number of hours I spent late at night helping fellow students making their last corrections! You may risk not having enough time to make final proper corrections or revisions, which again can be fatal to the quality of your thesis.

What can you do instead?

Make a better estimate of how long it will actually take to write up. Here is a super quick rule of thumb: How long do you THINK it takes to write a thesis? Between five and six months? Ok, now multiply that by two and add two more months (for editing and proofreading). Yes, it takes about a full year if you start from scratch, which means if you have never written anything related to your project before, or if you have to create all of your figures and tables from scratch by the time you have completed your data analysis, or if you never bothered keeping a

bibliographic record of all the papers you were reading along the way. So, here are some examples of what you can do instead even at an early stage: start organising your literature review; draft your methodology section (here you should only explain the HOW of what you did, and leave the WHAT you got to the Results section); summarise any “theoretical” section you may need to include in your thesis. It is unlikely that any of these will change much over the course of your PhD once its direction has been consolidated. Repurpose material from talks you have given at conferences and summer schools.

What benefits will you get?

The key benefit of planning the write-up carefully and preparing most of the supporting material as you go along, is that the actual writing up will probably take you between four and six months! Also, by preparing bits and pieces, or by drafting and publishing a conference proceeding or - even better - a refereed paper, you will get plenty of practice in scientific academic writing and ultimately you will save yourself a lot of time in the long run.

OVER TO YOU

- 1) Make sure you leave more time for your write-up
- 2) Get into the habit of writing something for as little as 30 minutes every day.
- 3) Speak to other PhD students who have recently completed their dissertation and find out how long it took them to write their thesis from beginning to end. What would they do differently if they could start all over again? You may be surprised by their answers!

MISTAKE #3

YOU BELIEVE NOBODY IS GOING TO READ IT, SO WHY BOTHER?



Why does this happen?

Writing a PhD thesis is probably going to be the single most demanding writing task that you will encounter in your career as an academic (or indeed in any other career you may pursue after your PhD). If you are like most PhD students, however, you too will have a tendency to believe that only your supervisor(s) and your examiner(s) will read your thesis. Some of you may even be able to add their parents and partner to the list, but that's all! So, it is all too natural to wonder whether it makes sense to spend such a long time to write something that nobody really cares about, right? Well... actually not. Here is why.

Why is that a problem?

For a start, thinking that your thesis is not worth writing well is not going to give you the right motivation. As a result, you may lose drive and feel trapped into something that you HAVE to do, but DO NOT WANT to. Not the best pre-requisite for writing an excellent piece of work, is it? In addition, you may be surprised by how many people in your field might be interested in getting the full details of what you have done in your investigation and may contact you to get a copy of your dissertation (not unlikely when a pdf file is just a click away from anywhere in the world).

Now, think about this... Not only does your thesis testify what you have been able to achieve during your PhD, its quality also speaks volumes about how professional you are. So what an image do you want to project of yourself?

What can you do instead?

Basically, you need to operate a shift of mindset. A useful way to look at things is to realise that your PhD thesis is actually a demonstration of your ability to establish yourself as a full researcher. This means doing good research, of course, but also being able to communicate it well. After all, where is the point of doing excellent work if we cannot explain why it is so important? Make sure that you show you have been both a careful researcher and a meticulous editor and proof reader. Use your thesis as a “business card” to show to your future academic employers. In fact, you should consider sending an electronic copy of your thesis to all the people in your field, who will find it interesting and relevant to their own research. Finally, remember that a well-written thesis can also be a very useful resource to other students who will follow in your path. Would you not have loved to have an excellent thesis to learn from when you first started your project? Years after I had completed both my undergraduate and my PhD theses, my supervisors once told me that many other students had been using my theses as a reference over the years! Wow, that was something to be proud of! 😊

What benefits will you get?

If your thesis has been well written and edited, chances are that your readers will regard you as a professional and respectful researcher. You may be able to repurpose much of the material contained in your thesis and publish one or more papers out of it that you can then boost in your CV. Even if you do not plan to stay in academia, remember that writing well is one of the most transferrable skills you can get and will turn out to be extremely useful no matter where you end up after your PhD.

OVER TO YOU

1) Make a list of all the people in your field who will be happy to receive a copy of your thesis and send them one!

2) Think about ways to repurpose all the work you have done in your PhD. Can you write a technical paper out of the simulations you have been running? Is there anything new in the methods you have been using for your experiments that could be published as a short communication?

3) Take every opportunity to challenge yourself to become a better writer, editor, and proofreader.

MISTAKE #4

I WANT TO FINISH MY DATA ANALYSIS FIRST AND THEN WILL START WRITING



Why does this happen?

Maybe you do not multitask well. Maybe you think you have to have final results before you can even start thinking about writing up. Maybe you want to have the bigger picture ready in front of you before making sense of what has been going on in your PhD project. If this is the case, it is no wonder that you will leave your whole writing up to the very end. Indeed, some people work best when they can focus on one thing at a time. Yet, there is so much involved in your writing up that if you leave everything to the very end, chances are you will end up stressed and panicked. Not a good position to be in.

Why is that a problem?

If you decide to tackle your writing up as a block activity that goes on for months until you are done with it, you risk getting bored, frustrated, unproductive, and ineffective. Even the most interesting of jobs can become dull if carried out without any change of focus. Can you imagine yourself sitting at a computer day in day out for eight-to-ten months in a row trying to piece together all you have done for the last three or so years? If this does not sound like a good prospect to you, it is imperative that you consider breaking up your writing up into smaller, more manageable bits.

What can you do instead?

You can start working at your thesis already as you go along with your PhD project. This does not necessarily mean to actually WRITE something! And indeed, some aspects of your project will have to be written later on, once it is absolutely clear how your project has evolved and what results you will get. However, there is still a lot you can do along the way. Here are some examples. Take every opportunity to prepare as much as possible as you go along: keep a full record in a bibliography file of all the references you reading; prepare figures and tables in the best possible form so you can put them straight into your thesis; write sections on the methodologies you (will) use; do anything else that will save you time when you start writing up for good.

What benefits will you get?

You will spend less time on the more tedious stuff (figures, tables, references) and save yourself a lot of stress at a time when you should just focus on producing the best content you can.

OVER TO YOU

Set aside 30 minutes every day to produce a figure, a table, an updated bibliographical record.

RESOURCES

USEFUL POSTS ON ACADEMIC LIFE

[My Number One Secret to Become A Better Writer](#)

[How to Keep on Top of Your Writing and Reading Activities](#)

[Top Ten Tips to a Great PhD Start \(Part One\)](#)

[Top Ten Tips to a Great PhD Start \(Part Two\)](#)

[High vs. Low Impact-Factor Journals: What Difference Does it Make to Your Writing Style?](#)

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GUEST POST ON SOAPBOX SCIENCE (NATURE.COM)

[Top 10 Tips to Succeed in Your PhD](#)

MISCELLANY

[Scientific Academic Writing Magazine](#)

Oh, and by the way, if you want more advice or guidance on HOW you can implement the suggestions given here or indeed if you need more support to write up your thesis, contact me at marialuisa.aliotta@gmail.com for a 30 minutes FREE Skype call. Together we will evaluate your situation and develop a plan to support you with whatever writing project you are working on! Look forward to hearing from you!

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ABOUT THE AUTHOR



Marialuisa Aliotta is a Senior Lecturer at the School of Physics and Astronomy of the University of Edinburgh (UK) and carries out research in experimental Nuclear Astrophysics. She has authored and co-authored over 60 publications in refereed journals and is often an invited speaker or lecturer at international conferences and summer schools. She enjoys teaching and supervising and is passionate about supporting people achieve their academic goals. Marialuisa is also the curator of the [Nuclear Astrophysics Magazine](#) and of [Scientific Academic Writing](#). Her blog, [Academic Life](#), is aimed at providing resources for aspiring and established academics. To find out more about her career, visit: <http://www.marialuisaaliotta.com>