



Thesis Writing Tips

It seems that recently, I've been running into quite a few post-graduates who are in the throes of writing their Ph.D. theses. Since I've been giving out advice, I thought I'd use the information as a tip, and then more people could benefit from it. In no particular order of importance, here are some tips for post-grads who are writing up:

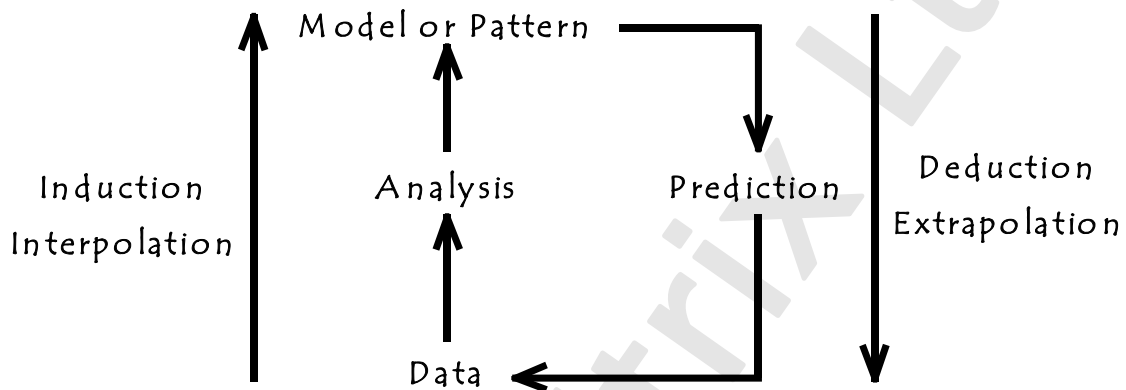
1. The 3 "BIG" questions I always ask my students when I proofread something they've given me are:
 - "How do you know?", which concerns what is the evidence or reasoning which supports some statement.
 - "So what?", which concerns meaning of a statement.
 - "Who cares?", which concerns relevance, usefulness and novelty of a fact or statement.
2. The **thesis is an exercise in persuasion and reasoned argument!** You are trying to **convince the examiners that you and your work are worth a Ph.D.** Structure and present your thesis as an argument to convince them. Have a point. Explain, defend and justify all choices and statements.
3. Because a thesis is a work of persuasion, think in terms of three questions: **What, Why and How.** So for example, when you explain what you did, also explain why that was important or necessary. Why now? When you explain how you did it, explain why it was done that way, with those methods. Remember, you are justifying or defending the value of your work, results and interpretations and the choices that you made as you carried it out.
4. Theses are not judged by weight, number of pages or number of references. They are assessed on the basis of **originality** or **novelty**, and **quality** of work, results, analysis, discussion and presentation. Quantity is always a poor substitute for the first two. The formula to success is:
Good Idea(s) + Good Work + Good Presentation = Success.
5. Be ruthless about what is relevant. It will make your job of writing much easier. Waffle and padding will take you time to write, proofread, print, and bind. Waffle and padding will take the examiners time to read and it **will be spotted**, it **will bore them** and it **will make a poor impression of your ability.** Theses are not

graded by weight!

6. The Introduction serves several vital functions.
Firstly, it sets the context. When and where was this work done? Where does it fit in the body of knowledge? What is it connected or related to? Is it filling a gap in our existing knowledge or is it extending our knowledge into new areas?
Secondly, what is it that you were attempting to accomplish? What was the problem you wanted to solve or the question you wanted to answer. This is the **point** of your thesis.
Thirdly, why do we need this? What was the value or importance of resolving the problem or question? How is your work and knowledge valuable? How can we make use of the knowledge?
Fourthly, what information must the reader know in order to understand your results, analysis, and discussion?
Anything beyond fulfilling these four functions is simply waffle or "data dumping".
7. When reading the thesis the examiner is going to be looking for "complete thoughts". What I mean by this is that they will unconsciously be checking for two things: "**What are the facts/evidence?**" plus "**What does it mean?**" If they read just a collection of facts and data, then their response will be "Yeah, so what? What does this mean?" Conversely, if you make some interpretation or conclusion without providing the data, then they're going to think "Where is the evidence for this? Prove it!" Get in the habit of providing the evidence and immediately providing the meaning of the data.
8. Assuming that you consistently provide your reader with **facts + meaning**, then the more subtle questions they will be wondering about concern **relevance, importance and usefulness**:
 - "What is the relevance?"
 - "What is this connected to?"
 - "Why is this valuable or important?"
 - "How can we use or apply this practically?"
9. Anything without a reference or citation, you are claiming is your work, your results or your idea. If you are asked to explain or defend that statement and you admit that it's actually "so and so's work" then you will appear to be guilty of either carelessness and incompetence or plagiarism and professional dishonesty.
10. And while we are on the subject of the literature, when you are reading the literature, you should also be asking: "**What is the evidence?**" + "**What does it**

mean?" The literature is filled with unproven "speculations" which eventually become "accepted" as truths by simple force of repetition. Go back to the original paper and check for yourself. What is the evidence? How do they **know**?

11. In trying to make sense of your data, you are looking for some kind of pattern or structure, with a small number of factors, which "explains" the data you have. This is a case of **inductive** reasoning. Once you have a pattern or model of what is happening, then you can use it to predict new observations which haven't been observed yet. This predictive activity is **deductive** reasoning. In mathematical terms, these would correspond to interpolation and extrapolation.



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12. Your principal method in finding the pattern in your data will be comparing and contrasting. What is the same across the various cases? What is different? Any time there is similar behaviour, then look for what factors are common. They are probably the important ones. Any time there are differences in behaviour, then look for the factors which are different. Exceptions have meaning. A great many discoveries have resulted from someone who noticed an exception and actually investigated what was happening rather than dismissing it as "experimental or random error".