How to Write a (PhD) Thesis

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PREAMBLES AND CAVEATS

➢ What the session is not (really or fully) about: "How to do a PhD," "How to conduct experiments," etc.

➢ Thesis as a terminal but critical milestone bridging PhD study completion and PhD award

➢ Assumptions: interest in and passion for research; right scientific questions; excellent study design; testable hypotheses (*if hypothesis-driven*); appropriate methodology, appropriate data collected, etc.

➢ Framework for today's talk: *A 3-year PhD programme requiring submission of a comprehensive thesis to be subsequently defended in a closed-door, face-to-face viva voce with at least an external examiner*

➢ Question time afterwards

WRITING: SOME REFLECTIONS

- Not everyone enjoys writing, but everyone could learn to write well (an 'art' that can be mastered)

- Those who will go far in an academic or a research career must be able to write well

- If you wait until thesis writing before learning how to write well, you are probably too late *(not irredeemable, though)*

- Excellent writers are excellent readers

- Good writing cannot help bad research, but bad writing could ruin good research

- Personal reflections: *My pet hate for bad writing, positioning for inspiration, the attraction of polymathy*

WRITING A PHD THESIS

▶ To undertake a PhD programme, 'brilliance' is indispensable but not sufficient – *you need an abundance of resilience and perseverance!*

▶ Thesis writing is an iterative process *(back-and-forth communication with supervisors)*

▶ Establish excellence in writing right from the beginning of your PhD; in fact, well before commencing a PhD

▶ Time, time, time – *do not underestimate how much time you'll need to write!*

▶ Know yourself – *strengths and weaknesses, commitments*

▶ Place for writing, manner and circumstances of writing *(full-time, writing bits over time, writing while still working in the lab or employed, etc.)*

WRITING A PHD THESIS – *Before Writing*

▶ Understand local rules, talk to ex-PhD students or other PhD students, read PhD theses to know: *number of words, structure, referencing style, deadline for submission, preliminary notification (intention to submit), IP requirements, legal requirements, etc. Do these well before you are due to write*

▶ Understand your supervisors (working relationship) and their writing irritations, *e.g., British vs. American spellings; split infinitives; serial commas, writing in first or third person (active voice vs. passive voice); using 'data' as plural or singular noun, etc.*

▶ Periodically analyse data; practise self-criticism; publish your work (where possible); present your work to receive feedback; name files for easy retrieval; store data properly and safely (e.g., back up your data, use networked storage platforms); attend skills development courses; learn to use relevant software packages, e.g., for reference management

▶ Identify your support network: *family, friends, faith colleagues, etc., are invaluable to keeping strong and sane, especially when the going gets tough. Think of critical friends for proof-reading, including language editing. What do you do as a non-native writer of English?*

WRITING A PHD THESIS – *During Writing*

▶ Planning, goal setting, milestones – *all part of writing*

▶ Who is your audience for the thesis in the short-term and long-term?

▶ Structure (organisation) of a thesis: introduction/literature review; aims and objectives; methodology/methods; results; discussion (or results and discussion); conclusions and recommendations; references; appendices. *These will be developed as chapters or chapter sections*

▶ Technical, scholastic, professional and literary competence: appropriate (technical) language; context; progression or flow or logicality; evidence base; intellectual rigour with respect to the defence or refutation of arguments *(that's why it is called a PhD – Philosophy Doctor or, in modern parlance, Doctor of Philosophy)*

WRITING A PHD THESIS – *During Writing*

▶ Understand the differences between primary, secondary and tertiary sources of information. *You must always attempt to access the primary literature, except where not possible or available in usable form*

▶ Deal with statistical design very early on *(in fact, from the beginning of the PhD); you must identify the appropriate statistical designs before you collect data; if necessary, consult a statistician with experience relevant to your area of research*

▶ Burden of proof and degree of confidence in data (avoid over-interpretation): "We show," "we suggest," "we confirm," "we prove" are not synonymous

▶ Avoid plagiarism like a plague

▶ Don't always believe the 'spell-check' function

▶ Some people use software to dictate their text

WRITING A PHD THESIS – *During Writing*

▶ The chronology of experiments or studies may not necessarily be the chronology of presenting data in the thesis

▶ Write abstract after you have finalised the chapters

▶ Use bibliographic software. Manual compilation of references is quite error-prone and will weary you out

▶ Each figure/table should be self-explanatory (able to stand on its own), cross-referenced and well-annotated – *for the legend/caption there should be a figure/table number, short title for the figure/table and a reasonable level of description*

WRITING A PHD THESIS – *During Writing*

▶ Overcome the 'blank screen' or 'blank paper' phobia

▶ The POWER writing process (Plan, Organise, Write, Edit, Review/Revise)

▶ Six (6) Cs (principles) of good writing (to use to review your work) – Clear, Concise, Coherent, Correct, Courteous, Complete

▶ Leave the written work for a few days or so and come back to it with a fresh mindset

▶ If in the process of writing you feel supersaturated or overwhelmed, take a break

APPRECIATION

▶ Family: Wife (Bukky) and children (Praise and David)

▶ PhD supervisors: Professors Trevor Stone and Rob Smith (both now retired - *my PhD was obtained in 2006, some 14 years ago*)

▶ Colleagues and mentors all throughout my career

▶ Thank you all for attending the webinar