

Preface

Why Did We Write This Book?

The idea to write this book came out of more than a few lively discussions over the years about our experiences getting our PhDs. A recurring theme of those chats was how little information about how to actually *do* research was imparted during the process of gaining our PhDs. Much of what we've learned, we learned "the hard way" in the years since we finished our PhDs. Time and again we said to each other "... if only we had known that ...". Worse yet, many of our colleagues also seem to have had similar experiences.

Most students have little trouble acquiring the technical aspects of performing their subject/discipline but the soft-skills (thinking and communication) that support their technical skills are often sadly neglected. In fact, a lot of schools and programs offer little in the way of formal courses related to these skills. Yet they are crucial for a successful career. How can you learn to think like a researcher and plan a research project that is designed to answer a question rather than simply collect data? How can you communicate your ideas to others and convince them of your conclusions or recommendations?

We feel that research degrees *should* be like an apprenticeship. Unfortunately, Supervisors and Principal Investigators are increasingly busy and have less time for personal coaching and teaching. Postgraduate students in large groups will receive an even smaller share of their supervisor's time. How much they can learn from other students and postdoctoral fellows to replace input from their supervisor(s) is variable. This book aims to fill that gap.

We decided to write this book to include all the things we would have liked to have learned about *how to do research* while we were still doing our PhDs! It's the book we wished we'd read when we were starting out.

Who Is This Book For?

This book is for postgraduate *research* students (MPhil, MSc or PhD) from any field or discipline such as aeronautical engineering, biology, business management, chemistry, civil engineering, computer science, electronics, environmental science, genetics, geography, history, mathematics, nursing, oceanography, psychology, physics, sociology ...

This book presumes that you have already decided to do a research degree and you now want to make the best of it.

What Is Our Approach?

We have aimed to make this book practical. For that reason, we have not littered it with references and notes. If you are interested in going into more depth in a topic, then you can find more material online or in your Library. Or you can have your graduate school book some of Ted's workshops which were the basis for this book.

The chapters in this book target the weak areas we have observed from working with postgraduate students and the problems and questions that have come up during the various workshops which Ted has run. We have assumed that postgraduate students will be able to learn the technical aspects of their discipline, and from our experience, this is a safe assumption.

We haven't included a separate chapter on defending your thesis because there is too much variation in how vivas are organised in different disciplines and countries to give any useful and specific advice. Your supervisor(s) will be in a better position to give you appropriate advice. Nevertheless, the chapters on reasoning, presenting and writing will help in writing your thesis and preparing for your defence.

We also haven't discussed "managing your supervisor". (... a dangerous myth in our opinion. Feel free to read someone else's fantasies on this matter.)

What Will This Book Help You To Do?

This book will help you to:

- Define your research question.
- Plan your research so that it answers your research question.
- Think about your results.
- Structure a logical case.
- Present your case (spoken or written) in a clear and concise way.
- Think about what comes after your research degree.
- Prepare an effective covering letter and CV/Résumé and then perform well in the interview.

Acknowledgements

Thanks to Jo James and Dr. Julie Reeves (both at the *University of Southampton*) and Mimi Phung for their helpful comments on an earlier draft.

Thanks to Christine VanderNoot (*Cognitrix Ltd.*) for her insightful and *relentless* editorial efforts. Her favourite questions were: "What are you trying to say?" and "How can you say this plainly and simply?". She kept reminding us that for some of the students reading this book, English would be their second or third language.