

# Chapter 14

## Epilogue



**Abstract** In this final chapter, an overview of the topics covered in the textbook is given, and sources for further reading are listed. The glossary A–Z of Part II is introduced in this part.

**Keywords** Epilogue · Summary · PhD · PhD trajectory

### 14.1 Summary

Congratulations on reaching the end of the first part of this book, dear readers! It's been quite a journey, reflecting on the entire PhD trajectory. We started from the very beginning, when we discussed in Chap. 2 how to get started with a PhD. Arriving to a new city and trying to grow roots there is the first step. Having the first meetings with your supervisor in order to talk about your mutual expectations should be a priority when you arrive. When you start working on your PhD, it is important that you start to document your work, and start to have a grip on your time. You want to move your work forward, without letting your work take over your life. Healthy habits and finding your non-negotiable self-care activities in the beginning of the PhD trajectory are key to long-term success.

In Chap. 3, we looked at the topic of planning. No, that doesn't mean that Chap. 3 is the only one that talks about planning – in fact, good planning habits are intertwined with all further topics in this book, to make sure you can deliver your projects and work on time. In Chap. 3, we introduced the basics of planning and time management. You took time to make a rough planning for the entire course of your PhD trajectory, identifying the major milestones you can expect along the way. Then, we zoomed into the current semester, identifying the tasks you need to finish in this semester. We made a further detailed planning for the current month, learned to set up a weekly template to fit your different tasks and responsibilities, and defined how to determine your daily to-do list. You learned to distinguish and prioritize different tasks based on the urgent-important matrix. We also looked at the digital and paper-based tools that you can use for this purpose. Your weekly template serves the additional purpose that it sets boundaries to the hours you work on a daily basis, so that you can maintain a healthy sleeping schedule, and have sufficient time to eat properly and exercise.

Chapter 4 looks at the first step of your actual research: developing and then writing the literature review. The entire process of the literature review and its planning are the topic of this chapter. We discussed how to find the required references, how to store and process these, and when you have been reading enough to start writing your literature review. The first result of your literature review is the literature review report, which you will submit and discuss with your supervisor. Towards your graduation, you need to turn this report into a thesis chapter and/or a survey paper. This step is also discussed in Chap. 4.

After having a good grasp of the literature, you are ready to formulate your research question. This topic is discussed in Chap. 5. You learned how to use the gaps you identified in the literature to formulate a research question that is not too broad, and how to divide this question further into subquestions. These subquestions can then be translated into actionable tasks that you need to investigate further during your PhD trajectory. And of course, actionable tasks mean items you can integrate into your planning for the upcoming years of your PhD trajectory. The results of the analysis of your subquestions typically will become chapters of your dissertation. An important skill for formulating your research question is creativity, and we discussed how you can stimulate creativity to support your research in Chap. 5.

In Chap. 6, we went into the laboratory to look at planning and executing experiments for your doctoral research. You start again from your literature review, and from the experiments that have been carried out in the past, which can inspire you for the design of your test setup. Once you have an idea of your experiments, you need to plan the logistics of carrying out your experiments – the skills we discussed in Chap. 3 are very helpful for this topic. If you have the green light from your supervisor and funders to carry out the experiments, it is important to set up your data processing and storage protocols, and to start developing written documentation and a report of your work. For your graduation, you then will need to turn your report into a chapter of your dissertation and/or a journal paper. All pointers and advice on how to do this can be found in Chap. 6.

With Chap. 7 we take a break from the chronological order of the major milestones in your PhD trajectory, and discuss academic writing. Before you start writing, you need to have a plan for your writing and you need to know how to structure your writing accordingly. You also need to know your audience and why you are writing a certain document. The second issue related to writing is finding your voice in writing, a topic many beginning writers struggle with. We discuss the different writing styles for different types of documents, and how you can practice writing to develop your voice. If you are a non-native speaker of English, you can find guidance on how to improve your academic English in a subsection of Chap. 7. Since writing is part of the daily practice of academia, and a constant task for all academics, Chap. 7 rounds off with some tips on how to become a productive academic writer.

We continue the topic of academic skills in Chap. 8 by looking at presenting academic work. The road to a successful presentation involves sufficient time for preparing and practicing your presentation, so a good planning is important. Knowing the tools you have available at a presentation is another important element. To develop your actual presentation, we looked at different possible structures

for your presentation, and the type of presentation these are suitable for. When developing your presentation, you need to know your audience too. As in Chap. 7, Chap. 8 contains a subsection for non-native speakers of English, to help them with specific issues related to presentations. We also look at presenting in different languages, and the additional preparation time this may involve. For all presenters, we discussed how to gain confidence in presentations, and how to give clear presentations. In a final section, we looked at what you can do with your presentation material after your presentation. If you share your presentation online, you can reach an audience that may be larger than the audience that was present at your presentation.

The last topic in the section about academic skills is communicating science in the twenty-first century, discussed in Chap. 9. The focus of this chapter is on the opportunities the internet offers for sharing your science with fellow academics, inside and outside your discipline, and the broader public. Particularly good tools for sharing your science are online weblogs and Twitter. We discussed how to use these platforms, as well as how to develop your brand.

We return to the major milestones of the PhD trajectory in Chap. 10 by looking at your first technical conference. All the steps you go through before, during, and after attending a conference are discussed – and of course, connected to planning the required timeline. We discussed how to select a suitable conference, and a suitable topic to present at a conference. For getting the most out of a conference, good preparation is key. Finally, when coming home, filing away your material, sharing your presentation online, and reaching out to the people you met at the conference are the last conference-related activities before you can return to the regular order of the day.

Another major milestone during your PhD trajectory is the writing and (eventually, hopefully) publication of your first journal article, which we discussed in Chap. 11. The first important step is to select the right journal. Then, to make sure you find time for writing and finalize your writing project, planning is crucial. We zoomed in on the abstract, since it is a vital part of your paper, and an important item to evaluate for the reviewers. You learned how to write a cover letter. After submission of your manuscript, you wait until you receive a notification. If the reviewers require modifications, it is important to address all their concerns in an appropriate manner. If your paper gets rejected, which happens to about two thirds of all manuscripts, take some time to get over this disappointment, and then revisit your work, improve it, and submit it elsewhere.

After these milestones comes the writing of your dissertation, discussed in Chap. 12. Again, to make sure you can finish all your writing on time, a realistic planning is necessary. Besides a planning, you also need a map of thesiland – for your case that would be the outline of your chapters. We discussed how you can use a simple diagram based on your research question and subquestions to develop a cohesive structure. Writing a big book style thesis can be a long process, so we talked about how to stay motivated when writing an entire dissertation, and learned that a certain amount of writing every day is the recipe for long-term success. Chapters that require special attention are the introduction and the conclusions, and we discussed

effective ways for writing these chapters. After finalization of your draft and approval by your supervisor, you will need to make the changes requested by your committee members, and eventually defend your thesis. Depending on the guidelines of your institution, it is also possible that you defend first, and then submit your final thesis.

The last chapter in this book, Chap. 13, looks towards the future, to life and work after you finish your PhD trajectory. We first looked at how you can recover and give yourself some time to rest and relax after defending your PhD. To help you outline your career plan, we looked at different career paths that you can consider after your PhD. For success when applying to jobs, you learned how to show your future employer what you can bring to the table by highlighting your unique academic skills. The chapter also gave you tips for success in academia, tips for success in the industry, and tips for going abroad or developing international collaborations.

## 14.2 How to Use the Glossary A–Z of Part II

The second part of this book contains a glossary of topics that deal with the PhD, and forms the literal A–Z part of this book. When you need a refresher on a certain topic, you can look up the word in the glossary list, read the short description to get going again, or see where in Part I you can read more about this topic. If you've worked through this book in the form of a formal course, the glossary list serves as a list with short reminders.

## 14.3 Sources of Further Reading

Here you can find some references for further reading on different topics:

- General PhD research [1–11]
- Academic writing [12–18]
- Life in academia [19, 20]
- Productivity and planning [21–26]

## Further Reading and References

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