

4 Supervision of Your Dissertation

- You should be aware of what you can expect from your advisor and your committee in terms of guidance and participation during the process of writing a dissertation. As you will find out, the expectations can change over time.
- Your advisor will have a more active role early in the research process and a less active role later in the process.
- *Do not confuse guidance with participation.* Expect for your advisor and your committee to only provide guidance. For example, if you have a question, do not expect the faculty member to “participate” with you to find an answer. It is your responsibility to find an answer. The faculty member will often provide you with “guidance”, such as making suggestions, but will go no further than that.
- Expectations can differ from one advisor to another (and from one committee to another). In Chapter 4, I will discuss issues related to Ph.D. advisors and Ph.D. committees.
- Specifically, I will address the question: “Are you clear about the role of your advisor and your committee concerning the dissertation process?”.

4.1 The roles of your Ph.D. advisor and Ph.D. committee.

The role of an advisor:

1. *Your advisor can help you decide the research topic of your dissertation.*
 - Most Ph.D. students do not formulate their own research topic. Most students receive help from an advisor to find the topic. Therefore, you should not be afraid to ask for guidance from an advisor regarding a dissertation topic.
 - Personal note: My advisor proposed a specific problem in experimental design. After I started working on the problem, I discovered a related problem that was still unsolved in optimal design theory. I proposed this new problem to my advisor who liked it. I worked on both problems for my dissertation.
2. *Your advisor can help you create an initial list of “general” and “specialized” references to read.* (See Section 2.2)
 - Personal note: My advisor gave me a couple of articles he had written related to my research topic. From these articles and a library search, I created a new list of articles. I showed the list to my advisor for his advice regarding which articles he thought were the most important and relevant to read first.
3. *Your advisor is a general resource of advice.*
 - You are not expected to be an expert in a research area as soon as you begin your dissertation. You can ask an advisor questions in areas related to your topic. How much help is provided varies from one advisor to another.

- However, at the time you finish your dissertation, it is assumed you have become an expert on your dissertation topic and can answer questions about it.
 - Personal note: I had a lot of questions at the beginning of the dissertation process (especially about the practical applications of the research). My advisor shared his experiences at DuPont and the applications in chemical processes.
4. *Your advisor should talk to you about the progress of your research and writing.*
- At different points in time (possibly, once a month), your advisor can inform you whether or not you are making satisfactory progress to meet deadlines for completing the dissertation.
 - Personal note: I met my advisor usually once a week. I told him what I had done that week, what I am currently working on, and what I was planning to do next. He would let me know if I was making significant progress.
5. *Your advisor can offer guidance regarding the format of the written dissertation.*
- The written format for a dissertation is not the same at all universities. You and your advisor should have a plan for the structure of the dissertation (e.g., the focus of each chapter and subsection).
 - Personal note: I did not learn about the dissertation format from my advisor Dr. James Lucas at DuPont. I learned about the format from the co-advisor Dr. John Scheuenmeyer who was a faculty member at the University of Delaware.
6. *Your advisor may require drafts of parts of the dissertation on certain dates.*
- Personal note: My advisor did not do this because I did not procrastinate. If I did, I am sure he would have set deadlines.
7. *Your advisor may provide feedback on your submitted drafts*
- After you submit a draft of a chapter, section, proof, simulation results, ..., your advisor will read it and make suggestions and corrections. You will then revise the draft, and submit the revision in a timely fashion.
 - Expect to repeat this process one or more times. That is, the advisor will review your revision, and make suggestions and corrections of your revision. You will then submit a new revision.
 - Personal note: You must realize that your advisor is a busy person and has other commitments (possibly advising another Ph.D. student). As a Ph.D. advisor, I appreciate when a student submits a revision as soon as possible so I can review it when my schedule allows.
8. *Your advisor may advise you about the dissertation as a single document.*
- Your advisor approves or disapproves of the revisions you submit for the different pieces of the dissertation (such as sections and chapters). Remember that you still have to put all of the pieces of the dissertation to form one “coherent” document.

- Therefore, your advisor will often provide feedback about putting all of the pieces together and how they are connected to each other. For example, “How is the Introduction related to the Discussion?” and “How is the Literature Review related to the Discussion?” Your advisor may be willing to provide advice on these questions.

The role of your committee:

- *Forming the committee:* Rules vary across universities. You need to check the rules for your program. At almost all universities:
 - You can have either a single advisor or co-advisors. If you have co-advisors, at least one must be from the statistics faculty at that university. One co-advisor can be from another faculty or can be from the statistics faculty of another university.
 - You will have at least two other members from your statistics faculty.

The remaining one or two members vary by university. Here are examples I know of:

- A committee member who is not a co-advisor *can be from another university*. This is what happens at TU. For example, you could have a committee member from Kasetsart University.
- A committee member (known as a graduate committee representative) must be from the university, but must be from another faculty. This is what happens at Montana State University (but not TU).
- A committee member can be a researcher from outside the university (such as a Ph.D. researcher who works in industry or a government agency).
- All committee members are expected to have a doctoral degree (which will be a Ph.D. if your dissertation is in statistics).
- Other than your advisor or co-advisors, there is no need (in general) to worry about who will be on your committee.
- The primary responsibility of your committee will be to assess the quality of your dissertation research. That is, your committee will assess whether or not you successfully met all research objectives in the written dissertation and can defend your results in the dissertation defense.
- You should keep your committee informed at least once every two or three months early in the process, and more frequently later in the process. You should let them know when to expect chapters of the dissertation for review.
- You must realize that other than your advisor, the committee members will not be experts in the area of the research. Therefore, if you ask a committee member for help related to your research area, you may not get it. Despite this, your committee members are usually willing to talk to you with advice on other issues.

- For example, if I was on a Ph.D. committee and the dissertation area was in spatial statistics, I would probably not be able to help the student because my knowledge of spatial statistics is limited. I could, however, suggest possible references that could help the student.
- Remember: Your committee expects that the dissertation should represent your work, and not work that you and your advisor completed. You are expected to work independently and to present a dissertation which tells your committee “Here is my research. I need you to assess it.”

4.2 Guidance/advice versus collaboration.

- Your advisor will make corrections and suggestions to work you submit for review. There are constructive criticisms of your work. The criticisms are professional and not personal. The criticisms are meant to help. So, you need to understand the advisor is not being mean to you. It is part of the process.
- Your advisor will provide guidance, but the advisor will not do the work for you or with you. So do not expect your advisor to be your co-author of the dissertation. *It is your Ph.D..*
- You should realize that your advisor and the members of your Ph.D. committee are helping you to perform independent research. They will make suggestions, but they are not obligated to fix your problems or tell you how to fix them. They may return parts of your dissertation and tell you to fix it yourself.
- It is very helpful to the advisor if you are prepared for meetings. Meetings without any written work from the student are not an effective use of time. Some advisors will say “Come back and see me when you have something to show me.”
- If you have a simple question or need some technical point clarified, then an email will usually be okay.
- If you have a large amount of material for the advisor to read, then make sure the advisor has a copy before a meeting and has enough time to read it. You do not want to have a meeting with your advisor and just watch him or her read it while you just sit there.
- During the dissertation process, you should gain enough confidence to rely less and less on your advisor until you can work independently. The dissertation process should transform the student into a professional researcher.
- Writing and defending a proposal and dissertation establishes to the Ph.D. committee that the student can perform independent research.
- Remember: it is the responsibility of the advisor to provide you with helpful guidance that will enable you to do independent research. Do not expect the advisor to collaborate with the writing or generating results.

My personal experience

- In my dissertation, I had to prove several theorems related to optimal designs. I wrote each proof on paper for my advisor to read. After he verified that a proof of a theorem was correct or made suggestions for clarity, I would immediately type the proof and save it in a separate LaTeX file. After finishing typing, it felt good to know that I would not have to type it a later date. When it was time to write a chapter, I could insert each proof into that chapter.
- By occasionally showing a typed version of some of your results to your advisor demonstrates that you are not only making progress with finding research results, but also the written dissertation.
- I would use the following method throughout my dissertation process:
 - I submitted written notes of small parts of the dissertation for my advisor to read.
 - I waited to receive his comments, suggestions, and corrections (if any).
 - I would then type a draft of the notes that included all of the recommended changes of my advisor.
 - I would proof-read the typed notes at least twice before asking my advisor to read the typed version of my notes.
- After several months I was generating my own reading list, and I would present drafts to my advisor without being asked to. I wanted to prove to my advisor that I was becoming an independent researcher.
- Remember that the roles someday will be reversed: you will be asked to be an advisor (e.g., for an MS student in statistics). If you were properly trained during your dissertation, it will make being an advisor easier in the future.
- Once you graduate, you will no longer have an advisor. Students will now rely on you for guidance.

Additional Comments

- Working on a dissertation can be more difficult for Thammasat University students if they have an international advisor. Therefore,
 - You can only meet when the advisor is visiting TU. Therefore, take advantage of the time when your advisor is in Thailand.
 - Therefore, you may need to make major changes to your schedule when your advisor is present. Specifically, you may have to work more hours than usual.
 - When your advisor is away from TU, you will need to be self-motivated.
 - You will have a lot more correspondence using emails, faxes, and scanned documents. You need to manage your time to adjust for these forms of correspondence.