Typical structure of a design-based MSc Design thesis

The purpose of this document is to convey a sense of how you may structure your MSc Design thesis when your thesis work comprises a significant design process. It is meant to be read at a fairly early stage of your work, when you start drafting what is eventually to become the master thesis. If your thesis project is based on conventional empirical methods (such as, say, studying the use of existing design artifacts), or if it is an analytical/critical project (in, e.g., design philosophy), you will need to look elsewhere for guidance.

In this document I emphasize the broad strokes of the argumentative progression of the final thesis (which is not the same as the chronological progression of the work process!). Note that the parts indicated below represent a structure of content and argumentation – not the actual headings of actual chapters in the final thesis. There is a short section at the end on how to translate your structure into actual chapter headings.

I will be using an example throughout to illustrate various points. It is something I made up for this purpose: A hypothetical thesis project on designing dynamic moodboards to provide visual inspiration while sketching.

Front matter.

These are the formalities at the beginning of the final thesis document.

The title page is mostly determined by the formatting template that you will be expected to use. At the stage of drafting the thesis contents, what you need to think about is a preliminary **title** of the thesis. The safe bet is to make the title straight and informative, stating the topic of the thesis. The title of our hypothetical example thesis could thus be "Designing dynamic moodboards for visual inspiration." The other main strategy is to combine a cute and catchy main title with an informative subtitle, as in "Ideas all around: Designing dynamic moodboards for visual inspiration while sketching." You can expect the final version of the title to be different from the first one you choose, but it is still a sound practice to set a tentative title early on to help you focus and visualize the final thesis.

The **abstract** is 100–150 words and focuses mainly on summarizing the results of the work. It might mention the research method if there is room, but it is not meant to be a summary of the whole thesis or the whole process.

The **table of contents** can provide the reader with an overview of what to expect. In order for this to work, make sure to include no more than two levels of headers, even if there are three header levels in your thesis. Although separate lists of tables

and figures are easy to generate in some word processors, they are usually more annoying than valuable to the reader.

Main part.

This is the real thesis. For a thesis describing a design process, you normally employ an argumentative structure based on establishing a research question, framing it theoretically, planning how to answer it, reporting how you went about your work, and then answering the research question.

Note that a design-based thesis is different from academic texts in some other disciplines, in that your work comprises a significant design process where you explore the design situation, play around with different concepts, and in general make many design decisions based on your own judgment and skill. This is why the design-based thesis contains a fairly extensive report on how you went about your work. In some other disciplines (such as empirical social science, not to mention the natural sciences), it is enough to describe your method and then go directly to the results you obtained. It is assumed that the method is executed objectively and repeatably; such assumptions are not possible in design.

The following describes in a little more detail how the main part of a typical design-based thesis might be structured.

It starts with introducing the general area and topic of the thesis. The **introduction** may have a funnel structure, going from broad and relatable motivations for your research towards a more precise problem statement, all the way down to a specific research question.

The **research question** is narrow and precise enough for you to be able to answer it in the course of a thesis project. In a design-based thesis project, it is quite common for the research question to be quite broad and vague initially and then develop and become increasingly refined during the work. This is due to the explorative nature of design and indicates that you are gaining insights and re-framing your understanding of the design situation as you go along. However, the final version of the thesis should be built around the final version of the research question and your answer to it – you are not writing a diary of an explorative process but rather a coherent account of your knowledge contribution after concluding the explorative process.

Following the research question is usually a set of **delimitations**, clarifying what is inside and outside the scope of your work, and then, sometimes, a reader's guide giving an overview of the rest of the text.

The next major component is the **theoretical framework**, framing the research question by summarizing what is already known about it in the scientific literature. A good guideline is to focus on (i) knowledge that you will be using generatively to

inspire and assess your own design work, and (ii) knowledge that helps you put the answer to your research question in perspective (and perhaps even be able to claim that it is novel).

The theoretical framework should represent your own synthesized understanding of what you have read. To this end, structuring the text into themes that you write about in your own words is generally better than providing a list of summaries of individual references.

The theoretical framework contains only concepts and theories pertaining to the topic of your thesis. It does not contain methodological sources, which are instead introduced and used in the chapter on methods that comes next. In our example thesis, the theoretical framework might have a part on what is known about visual inspiration in sketching, another part on focus and periphery in immersive visual environments, and finally a part on real-time semantic analysis of hand drawings.

The next component is devoted to your **research method**. This is where you repeat your research question and then unpack it into a discussion on how you need to go about to be able to produce an answer. This typically takes the form of introducing an overall research approach (such as research through design) with proper references to the research methods literature, then creating a specific research process plan based on the overall approach with phases and steps that fit your needs.

The reason for talking about your research method in the thesis instead of simply doing it and reporting your process is that you need to help the readers decide how much they can believe in your results. Part of this comes from your explaining and justifying the different method steps. If you can discuss different alternatives for performing a certain step in your research process and explain why you chose one approach over others, it is even better.

Note that in a design-based thesis, it is customary to not mention your literature review as part of the research method. The results of the literature review are accounted for in the theoretical framework, and that is considered to be enough.

The next few chapters consist of a report of your **execution** of the method you just proposed. Your aim here is to construct a coherent chain of reasoning from research question to the answer you are eventually able to provide, focusing on important design decisions and their motivations. Some decisions will be based on empirical findings, others on theoretical knowledge and perhaps on practicalities such as availability of tools and materials. Yet other decisions reflect your personal skills, judgment, and preferences as a designer. Examiners and readers will be looking for transparency and criticizability, meaning that they should be able to backtrack from your proposed answer to determine for themselves how credible they find it, and which points of the process they can challenge productively.

The exact shape of the execution can vary, of course, depending on the nature of the design project. In the dynamic moodboard example, there would be a chapter on

preparatory fieldwork of current sketching practices and current uses of moodboards; a chapter on the divergent ideation of design concepts and the choice of one concept for detailing; a chapter on the development of a prototype; and a chapter on the empirical validation of the prototype.

The main part of the thesis ends with a **conclusion and discussion**. It is often a good idea to start with repeating the research question and then trying to answer it concisely. This answer can then be discussed in a variety of ways. For example, it will be interesting for the reader to know your thoughts on what the answer means for future professional practice and/or for society. In some cases, it can make sense to outline new research challenges identified in your work. It is also common to present a set of reflections on your choice of research methods and the way you executed them, demonstrating your ability to assess your own work critically.

End matter.

The thesis ends with a few more formalities. If you want to thank people and institutions for their contributions to your work and the thesis, you would typically do it here in a section called **Acknowledgments**. The full list of all sources you cite in the thesis is collected in **References**, using the recommended citation style. Finally, there may be one or more **appendices** for material that adds to the understanding for the particularly interested reader (or the examiner!) but that is deemed too detailed or tangential for the main text. In the dynamic moodboard example, the thesis might contain an appendix reporting the detailed observation and interview data from the preparatory fieldwork on current sketching practices.

Turning the structure into a document outline.

At this point, you might ask how the abstract structure outlined above translates to an actual document template. In other words, what does the real outline look like? In this section, I want to introduce the typical approach and then indicate a different way to think about chapter headings. Consider it food for thought, if nothing else.

The typical way to create a document outline for an academic text is to give the chapters generic names relating to their structural functions. For the dynamic moodboard thesis, the chapter-level outline for the main part with its four chapters on the execution of the design process might go something like this:

Introduction
Theoretical framework
Method
Preparatory fieldwork
Concept ideation

Prototype development
Validation
Conclusion and discussion

Substitute your specific design process execution divided into a suitable number of chapters, add the front matter and end matter, and you have a document template for your own thesis.

However, I would also like to mention an alternative approach where headings are allowed to convey specific meaning and actually say what they contain. If this is done well, it might contribute to a more readable thesis that does not feel quite as formal and alienating, while still retaining the precision and clarity required of academic writing. To go back once more to the dynamic moodboards, an outline with descriptive chapter headings might look like this:

Visual sketchers need visual inspiration
Visual peripheral inspiration, semantic sketch analysis
UX-oriented research through design
Sketchers develop tunnel vision
Thirteen ways to provide visual sketching inspiration
Building a Wizard-of-Oz version of the Idea Room
Peripheral visual inspiration works best for collaborative sketching
Dynamic moodboards can be a step towards hybrid design practices

This approach does have some appeal, but to readers who are expecting a more mainstream approach it might be too informal and even confusing. A possible compromise would be to use composite headings, with a main phrase indicating the structural function of the chapter and a subordinate phrase describing the actual contents of the chapter:

Introduction: Visual sketchers need visual inspiration
Theoretical framework: Visual peripheral inspiration, semantic sketch analysis
Method: UX-oriented research through design
Preparatory fieldwork: Sketchers develop tunnel vision
Concept ideation: Thirteen ways to provide visual sketching inspiration
Prototype development: Building a Wizard-of-Oz version of the Idea Room
Validation: Peripheral visual inspiration works best for collaborative sketching
Conclusion and discussion: Dynamic moodboards can be a step towards hybrid design practices

The ultimate decision might come down to a matter of overall style. If you are aiming for a conventional academic impression, then generic chapter headings is probably the way to go. It is also easy to use. Descriptive chapter headings or

composite headings may be an option for someone aiming for a more engaging style, which in turn requires stronger overall writing skills in upholding the rigor, clarity and precision always demanded of academic texts.