

Appendix B

A Model for Organization of Research-Based Thesis*

** PhD candidates much check with their thesis supervisor as some professors may prefer a different organizational framework*

**Formatting of the thesis document must be consistent with the Styles & Formatting document January 2020 – use Appendix A Template*

TITLE: Must accurately reflect the focus and SCOPE of the study – use pseudonyms (unless you have written permission to name the sites where the study is to take place.

NOTE:

Discussions **MUST** be grounded in the literature (i.e., referenced in APA, 2019, 7th ed format – see Styles and Formatting document January 2020)

Headings identified below for each chapter *are required* to organize the proposed research study (as identified in the framework)

Use **FUTURE TENSE** for Proposals; **PAST TENSE** for reports of completed research (i.e., thesis)

Use **FIRST PERSON ACTIVE VOICE** for both the proposal and the thesis (e.g. use “I will” ... or “I did” ... (NOT “it will” or “it was”). First person is more authentic in education research and required in APA, 2019, 7th edition – p. 61, Sec.4.2.

Chapter One: INTRODUCTION

(**NO** second heading ‘Introduction’)

Start with something like “The purpose(s) of this study is/was/were...” in your opening line – overall and succinct statement and sets the context of the study. **Must include** organization of the main headings for the chapter (e.g., In this chapter I will address, the background of the problem, the statement of the problem etc....)

It is good (but not essential) to identify the focus of all the remaining chapters. (e.g., In Chapter two I will discuss...; In Chapter three I will describe... etc.)

Use Level One or Level Two headings as appropriate (see APA, 2019, 7th edition)

Background of “the problem” – e.g., how did the problem arise? WHY is this a “problem”?

Statement of the Problem Situation – clearly state what the specific “problem” is that your study will address

Purpose of the Research – for proposal: ‘In this study I will’ (what do you hope to achieve with the study findings?); in final thesis dissertation change tense to past tense - ‘I found that ...’

Rationale/Significance of the study

- Why is the time and effort to study this problem warranted?
- Why is it important to study this? Important to whom? And why??

Researcher's personal rationale (situationally)

- why is this **important to YOU**? Why are YOU interested in this topic – declare your world view and ground in the literature i.e., how and why this lens is appropriate to your study e.g., see Creswell
- who are you? Situate yourself in the context of the study
- provides the reader with the insight on where YOU are coming from in the analysis etc. (i.e., what is YOUR lens?)

Research Questions:

- Overall research question only – specific research questions should be addressed in in Chapter 3 so as to prevent duplications
 - overall research question that the specific questions together will address/answer
 - You may want to point out that the specific research questions will be addressed in chapter 3
 - (Hypothesis is used primarily in experimental designs)

Theoretical Framework

- what is/are the theory(ies) that you are testing out in your study/of building on (e.g., learning theories, specific theorists' proposals regarding the topic and WHY it/they is/are appropriate to your study (Option: you can discuss the theoretical frame(s) in detail here in chapter 1 or provide an overview of it/them and then do a detailed discussion in chapter 2 (lit review)
- if there has not been much research done in this area, your work may be trying to establish grounded theory – (i.e., propose a theory based on your findings) but you have to have a large enough sample to achieve saturation in order to do that – most often the focus of a sparsely research topic is to “explore and describe” as a starting point for further research
- be sure to ground this discussion well in the literature

Conceptual framework.

- Discuss and diagram the elements in the theory that you select for your study and how the characteristics you are studying relate to each other within that framework – flow charts are useful here
- e.g., relationships between sociological issues (social justice, equity, anti-racists concepts); economic ones (e.g., resources), administrative issues (e.g., research resources and costs – teaching vs. research) etc. that frame your study

Scope of the study – what aspects are you including and what are you NOT including

- parameters and boundaries of the study – dates/geographic/scope of topic
- quantitative studies are particularly concerned with external and internal validity of the work and reliability – so scope and variables included and excluded are important
- does the study design permit generalization beyond the study context and why you believe it does (e.g., sample size, selection process etc.)? If not, why not, but why is the study valuable despite findings not being generalizable?

Limitations of the study (this is **NOT** a weakness – just declaration/transparency to ensure academic integrity)

- the MAIN issue is whether the findings are generalizable or not and if so, and to what population?
- qualitative studies, discussion of the researcher’s preconceptions and epistemological stance (e.g., previous experiences in the context, relationship to those researched, and clear identification of the methodological assumptions upon which this work is based. (e.g., case study is designed to increase our understanding of “the problem” – it is not to generalize findings etc.
- what has YOUR experience been in this area (are you a novice or expert?) and – very important - what have you done to minimize the “biasing” your perspectives in the analysis of the findings?

Summary of Chapter 1 and Brief outline of the rest of the chapters

Glossary

- Terms, Acronyms and Definitions

CHAPTER TWO: REVIEW OF THE LITERATURE

Grounded fully in the literature with appropriate referencing.

Note purpose of the literature review is to:

- map out the current state of knowledge about the topic studied based on appropriate categories (themes) relevant to the topic
- present findings of contemporary studies and gaps in the literature
- describe and assess the methods, analysis and implications of the studies found in the literature –
- identify points of debate, uncertainty, ambiguity etc. (i.e., critical analysis and critique)
- support the basis for the approach taken in your research based on what is and is not found in the literature

Scope and limitations of literature reviewed

- identify inclusion and exclusion criteria for literature reviewed and why (e.g., in relation to watershed points within the appropriate context (such as changes in legislation etc. and whether the literature review focuses on BEFORE or AFTER that watershed point)
- identify the years of publication that are addressed and whether it is scholarly writing and/or research-based, originating in Canada, the USA or other countries

Include *analysis* of the literature reviewed and synthesis

- **Critical (critique)** in review of the literature is essential (not just a summary of what others have written) - who agrees with whom; where is there dissent and why?? (i.e., identify thesis and antithesis)
- synthesis of all the literature - overall what is the dominant message in relation to the research you are undertaking?
- more recent articles should predominate
- when possible, research based-articles and primary sources should predominate
- identify gaps in the literature that you have FOUND (don't claim that this literature does NOT exist – just that **you have not found any** in your review)

Possible headings:

Themes of literature reviewed

- identify themes that you see in the literature review and present a review of the literature in each category under its own heading (don't use the term "themes *emerge*" – as if they bubble up!)
- be sure to look for and include works that **do** and those that **do NOT agree** with particular themes ("on the other hand")
- chronological progression of research and scholarly work on the topic

May include a general analysis of the theories that ground the study (or in chapter 1) and research methodology/design (or in chapter 3), that were options you considered?

- strengths and weaknesses of the research design and methods you chose for your study and different research methods that you might have used in your research
- this part may be dealt with in Chapter 3 instead

Summary of Chapter 2 and Outline of remaining chapters

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

Note:

- Chapter 3 must be so clear and explicit that any other person could replicate your study as you will/did conduct it.
- Discuss **ONLY** what is relevant to each topic – do NOT expand/repeat beyond what is **specific to each heading** below
- Check APA 7th edition (pp.47-48) or Styles and Formatting document January 2020 for organizing format with the different LEVELS of headings,

Introductory paragraph - remind the reader of the purpose of the study, its importance and general methodology – **WITHOUT being repetitious** i.e., word differently from what you have in chapters 1 and 2:

- **Specific Research Questions** (Hypothesis only if this is an experimental design) that drove the study (The wording of these questions is **CRITICAL** since they drive your entire study, data collection, findings and implications)
 - what questions are you trying to answer with your research?
 - generally limited to 3 - 4 specific questions

Research Design

- describe your research design (see samples below) (include a full discussion of the design you selected and why - with grounding/referencing to the literature) - careful NOT to duplicate IF you have discussed your research design in chapter 2

a) Identify and describe the characteristics (grounded in the literature) of the research DESIGN based on intent of your study:

e.g.

- exploratory/descriptive
- experimental - quasi experimental
- survey
- case study
- phenomenology - i.e. description of the lived personal experience of subjects as reported by them – open ended – **No Directive** questions – let the participants present their perceptions **freely without steering** their recall etc.; include a description of the subjects' contexts – preferably from your personal observation of the setting (visits) – easy to mix up with exploratory/descriptive
- ethnography
- interpretative
- grounded theory (needs enough “cases” to develop)
- evaluative
- developmental

b) Methodology - based on the nature of the DATA that you will collect with rationale (i.e., why these are appropriate for your study)

- **Quantitative** (usually quantitative statistics; sometimes includes future estimates and forecasts built on verifiable data) – identify relationships between variables studied
- **Qualitative** – descriptive stats – increase understanding of the variables studied

- **Mixed Methods** research design – concurrent or sequential (see Creswell, 2014)
- strengths and limitations of each (grounded in the literature)

Site Selection with rationale – **WHERE** will/did the study take place? e.g., at college(s), university (ies)

- describe study **site** (use pseudonym/code unless you have **written consent to name**) (i.e., characteristics and location and why selected – and to what extent it is or they are representative (or not) of the population they come from) (e.g., all the colleges, all the universities in the jurisdiction of the study e.g., GTA, Ontario?)
- whether you obtained Administrative Consent for the study at the site and whether you received consent to name the site (include copy of consent to name as an Appendix)

Participant Selection with rationale – **WHO** will participate or participated in the study (who/what was the source of the data you collected)

- general description of the study population/sample who are the **key informants** for your study
- describe **HOW/WHY** you **selected** them
- describe **WHO and HOW** you **recruited** the participants (ensure there is no undue influence to participate – may need a third party to recruit for you)
- describe if and to what extent the **SAMPLE** is representative of the **POLULATION** they were drawn from
- in the **PROPOSAL** include estimated number of participants and your back up plan if you don't get that number to volunteer; in the final report of the completed study provide information on the **RESPONSE RATE**
- be specific about the sampling process and **how** they were recruited and by whom – ensure FIPPA requirements are protected (i.e. **NO** snowballing and **NO** non-consent driven recruitment)
- attach copy of Invitation/recruitment communication in the Appendix
- attach copy of your request to site personnel to distribute your invitation to participate on your behalf in the Appendix

Data Collection and Recording

- describe data collection steps (phases) and process (e.g., online survey; audio-recorded interviews or focus group discussions)

Instrumentation - e.g., questionnaire selection/interview guide design – attach a copy of the data collection instruments/tools in the Appendix

- quantitative and/or qualitative data and why you chose this – if you did not address this earlier
- describe the exact procedure used to collect data (detailed enough to be replicable by other scholars)
- identify any challenges met in the data collection and how these were resolved
- use of “**triangulation**” of data (i.e., **3 sources** of data/perspectives (e.g., students, faculty and documents) related to the phenomenon being studied – particularly for qualitative and mixed methods studies) (i.e., **3 sources** of information and **NOT** three ways of collecting data from the same source)

It is very useful to include here a **table listing the research questions that drove the study in first column and then in a second column identify the SOURCES of the data** that contributed to the answer to that question (e.g., Q 2, 7 and 9 of Questionnaire Survey)

Establishing credibility (Content validity and Face validity)

- pilot testing of any tools/instruments used – how, by whom and changes made as a result of the pilot testing
- includes pilot testing for **CONTENT validity** by subject matter experts and
- **FACE validity** with similar respondents for clarity, leading etc.
- ethics approval is needed before any pilot testing

Data Analysis

- description of the methods used to analyze all of the data and information used in the thesis
- for **quantitative studies**: calculation of numbers, per cents, norms, means, mode and any tests of statistical significance that were applied and why those tests were chosen for this study.
- if appropriate cluster analysis, substitution model to test effects of obvious future effects (**NOTE**: assistance with statistical analysis issues is available to all OISE students through the Education Commons (e.g., workshops <http://www.oise.utoronto.ca/ec/Home/index.html>) and at NO COST by appointment for personal consultation with Olesya Falenchuk, Research Analyst olesya.falenchuk@utoronto.ca)
- for **qualitative studies**: (e.g., case studies - **identify** key words, key phrases, themes YOU IDENTIFIED through content analysis, constant comparison analysis, descriptive stats, for all qualitative data collected - historical or present as appropriate
- validate transcripts of interviews with participants
- member checking of themes identified by several subject matter experts

Methodological Assumptions

- the philosophy (epistemology) underlying the **methods** (i.e., tools/means for collecting the data which inform your research) that you have chosen to use as sources of data for this study and why
- assumptions of the credibility of the data (e.g., in recall-focused studies)

Methodological Limitations (required for academic integrity and does not negate the value of your study)

- limitations of the methodology chosen and potential weaknesses of the study (e.g., potential influence of researcher; inability to make comparisons without base line data or comparable data bases with respect to operating or potential variables)

- describe steps taken to reduce potential bias and weaknesses (e.g., interviewee validation of transcripts, identification and/or validation of identified themes by one or more experts besides the researcher.
- MAIN limitation may be the NON-generalizability of findings depending on your sample size, method and representativeness of the population

Ethical Issues/considerations

- Identify how the rights of participants will be/were protected (e.g., voluntary participation, right to withdraw and how, and right to not answer question(s) without penalty; non-identifiability in any reporting of the findings); what happens to data collected IF participants withdraw
- Ethics Review approval required from U of T first, then from relevant institutions where the study will be/was conducted
- Additional consents (e.g., Aboriginal Chiefs) required by Tri Council Principles and Standards (TCPS2) as appropriate
- Attach copy of Consent Form(s) in Appendix

Summary and Restatement of the Purpose of the research or research questions

Outline of remaining chapters

END OF PROPOSAL DEVELOPMENT

CHAPTER FOUR*: FINDINGS AND ANALYSIS OF THE FINDINGS

Introductory paragraph - briefly link back to purpose of the study, methodology without being repetitious

Description of site/context - ONLY if NOT done in chapter 3 - in enough detail to be meaningful to the readers

- whether or not this is representative of the larger context

Description of participants – this may be done in Chapter 3 or 4 but should not be repetitious.

- brief description of the context (e.g., institution) where the study was conducted or “site visits” conducted
- description of the demographics of participants
- response rate, participation rates (i.e., how many of those who consented to participate actually did so), withdrawal numbers if any
- demonstrate that the participants are representative of the population they came from
- IMPORTANT – remember to adhere to non-identifiability principle for both the site(s) (unless you have received written permission to name), and all participants (pseudonyms are more interesting, but codes are OK as well)

Findings

- using the **specific research questions as an organizing framework** is very useful
 - e.g., Heading: Research Question No. 1 asked “.....”
‘Data to answer this question were derived from’ (unless you have already stated that in a table in chapter 3)
- then describe the findings relevant to this question
- analyze the findings in relation to the literature reviewed - where are they consistent with or inconsistent with the literature?
- identify “surprises” and/or new findings not found in YOUR literature review; findings that you did NOT expect and lack of data that you did expect
- loop back to the theoretical/conceptual models that ground your study – how are your findings consistent with or different from the theoretical grounding, or what do your findings add to the theoretical foundations?
- (Note: You can have more than one chapter for the findings based on themes (data/findings) usually organized by type of data or type of informants)
- Analysis can also be done in Chapter 5 instead of in chapter 4 or in more depth than in Chapter 4 – but this may create difficulties with the need to repeat findings
- **Summary** of findings (can also be done in Chapter 5 instead)

CHAPTER FIVE: DISCUSSION AND IMPLICATIONS

or CONCLUSIONS AND IMPLICATIONS

or RECOMMENDATIONS

Needs to “close the loop” (i.e., succinctly “answer” the initial research questions based on the research findings) – link back to the theoretical and conceptual frameworks that ground the study

Should address implications in relation to three areas:

1. Practice/praxis
2. Further research - suggestions for what additional research needs to be done; suggestions on how to approach this
3. Theory development - what do the findings of YOUR study contribute to our philosophical/scientific theories about the topic - what else should be explored in relation to underlying theories?

Contribution of the Study - what is the contribution that the study has made (e.g., address a specific gap in the literature? – what is the value added from this study?)

A Heading and discussion of planned **Dissemination of the findings** is useful but generally not required

References/ Bibliography if used

End-notes

Appendices

***Alternatives:**

Chapter 4 - Report on Findings related to each of your survey/interview questions/other data – may use additional chapters for findings of different data sets

Chapter 5 - analysis in relation to the Specific Research Question(s) (3-4) grounded in the literature

Chapter 6 - Summary, conclusions, implications and/or recommendations