DISSERTATION CONTENT AND STYLE GUIDE

THE GEORGE WASHINGTON UNIVERSITY
GRADUATE SCHOOL OF EDUCATION AND HUMAN DEVELOPMENT (GSEHD)

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DISSERTATION GUIDELINES

The following guidelines provide a framework for thorough presentation of your research. **These are guidelines only.** You must consult with your dissertation chair (*referred as "chair" in all following instances*) and committee members to determine the final elements of your dissertation. If your chair feels there will be a significant departure from the standard format, s/he should consult with the Senior Associate Dean prior to the proposal defense.

The discussion in some parts of the chapters may differ for quantitative and qualitative research studies. Please note, there are no separate guidelines for mixed methods. Dissertations using those methods will benefit from the guidelines for both quantitative and qualitative research, as well as direction from your methodologist.

GSEHD dissertations are normally structured as follows:

- Chapter 1: Introduction (Broad Overview of the Research)
- Chapter 2: Review of the Literature (and Conceptual Framework)
- Chapter 3: Methodology
- Chapter 4: Results
- Chapter 5: Interpretations, Conclusions, and Recommendations
- References
- Appendices

GSEHD requires that dissertation proposals include the elements normally found in Chapters 1, 2, 3, and the References of a dissertation.

Both your proposal and dissertation are major written documents that must convey complex ideas. It is your responsibility to present those ideas clearly and concisely. Both documents are also to comply with the style specified in the *Publications Manual of the American Psychological Association (Seventh Edition)*.

CHAPTER 1: INTRODUCTION

The first chapter introduces and provides a broad overview of the research that is to be undertaken. Parts of Chapter 1 summarize your Chapters 2 and 3, so in some programs, Chapter 1 may be written after Chapters 2 and 3. You should consult with your chair for guidance on the sequence you should use when writing your chapters.

Chairs often want students to provide a 5-10 page overview of their proposed "dissertation research" before undertaking a full literature review and detailed development of the methodology. Some may call this a "prospectus," and some may call it a first draft of Chapter 1. Whatever the terminology, the final draft of your Chapter 1 is to include accurate summaries of the final drafts of your Chapters 2 and 3.

It is important to undertake preliminary examinations of the literature before finalizing the "problem" and research questions of your proposed research. (These terms are defined below.) Exploration of the literature sometimes reveals that your initially chosen focus has already been extensively researched. If the literature is conflicted, that offers you an opportunity to do research that clarifies the reasons for the contradictions. If the results are consistent, you will probably have to find other research questions that have not yet been well researched.

Your Chapter 1 should include the following sections in the order presented:

Overview

Briefly explain why the study is being undertaken and what main questions or foreshadowed problems will be addressed. Do this in a general manner, because it will be done more specifically in the following sections.

Statement of the Problem

Discuss the problem to be addressed in the research—the gaps, perplexities, or inadequacies in existing theory, empirical knowledge, practice, or policy that prompted the study. The problem may be a theory that appears inadequate to explain known phenomena, the lack of empirical data on a potentially interesting relationship between X and Y, or a common practice that appears ineffective. First state the problem generally, and then state the specifics that your research will address. In quantitative research, the specifics will include the constructs studied.

That your favorite reading program is rarely used in school does not constitute a problem; widespread impaired reading in inner-city elementary schools is a problem. That your favorite conjectures are not represented in prevailing theory does not constitute a problem; that the theory does not explain applicable phenomena is a problem. That a certain group has been omitted from prior studies can indeed constitute a problem because theory, policy, and practice have not been shaped by knowledge of that group. Just as a special interest of yours may not constitute a problem, neither is the purpose of your research to prove your point.

Problems usually have underlying causes that may be well-known or the subject of speculation. They also have consequences that are often apparent. You should briefly discuss these causes and consequences and in general terms, what is known about the problem.

Purpose and Research Questions

The purpose of research is to acquire knowledge to address the problem or certain aspects of it. Quantitative research tries to fulfill that purpose by answering questions and/or testing hypotheses with the ultimate aim to generalize the results. Qualitative research tries to fulfill that purpose by starting with foreshadowed problems, conjectures, or exploratory questions. Mixed-methods research may use both approaches. Your research questions must be presented exactly as you state them in Chapter 3.

Statement of Potential Significance

Discuss the potential significance of the research. Significance comes from the uses that might be made of your results—how they might be of benefit to theory, knowledge, practice, policy, and future research. The potential significance should be based upon your literature review in Chapter 2.

Theoretical Foundation or Conceptual Framework

Briefly summarize the theoretical foundation or conceptual framework(s) derived from the literature review that is reported in Chapter 2.

Summary of the Methodology

Briefly summarize the methodology of the research that is described fully in Chapter 3.

Limitations and Delimitations

All studies have limitations to their validity, generalizability, and applicability. You have a responsibility to forewarn readers of the limitations and the reasons for them. Some limitations arise from the delimitations of the study, boundaries to make the study manageable, such as studying only one subpopulation of interest, addressing only parts of a problem, or perhaps examining only short-term effects. Some limitations arise from accommodating ethical concerns. Others come from shortcomings in methodology.

Quantitative Research

State the limitations of your study. The following questions will help you to identify some common sources of limitations in quantitative research.

- Did you sample from a subpopulation rather than the full population of interest?
- Did the sampling frame coincide little, moderately, or closely with the targeted population or sub-population?
- Were the response rates and item completion rates substantially less than 100%?
- Did you measure only some of the constructs likely to be applicable?
- Were the informed consent materials likely to have biased some responses?
- Were measurement scores less than highly reliable and valid?

- Were the experiments perhaps biased by Hawthorne and other "experimenter effects"?
- Did quasi-experiments and statistical modeling fail to control for viable competing hypotheses?
- Were the assumptions of the statistical procedures not fully met?
- Did the low power from small sample sizes perhaps contribute to having few statistically significant results?

Qualitative Research

Describe the limitations of your study. The following questions will help you to identify some common sources of limitations in qualitative research.

- What were the boundaries of the case or unit studied?
- What related phenomena, events, or questions were not examined—by original plan or due to unexpected barriers?
- What access did the researcher seek but was unable to gain?
- How were informants selected, and how might that have biased or limited the information that was collected from them?
- How did requirements for protection of humans perhaps adversely affect the study?
- How did the researcher's presence perhaps affect the phenomena being studied?

Definition of Key Terms

Briefly define key terms in the research that might not be well understood by the readers. Cite a source for each definition derived from the literature as appropriate.

Quantitative Research

Key terms generally should be defined both conceptually and operationally. The latter means defined in terms of how they will be measured.

Qualitative Research

Key terms generally should be defined conceptually in accordance with their theoretical underpinnings.

CHAPTER 2: LITERATURE REVIEW

The critical evaluation and synthesis of previous research within your literature review will inform:

1. The problem to be addressed and its significance
2. The theoretical foundation or conceptual framework

3. The research questions, hypotheses, foreshadowed problems, or conjectures
4. The research paradigm and the methodology

The subsections indicated below are of the process and components of a literature review and not necessarily subheadings of Chapter 2.

Introduction: Topic(s), Purposes, and Methods of the Literature Review

A literature review usually begins with an indication of the topic(s) to be covered and the purposes of the review. The methods of the review should be briefly described. Indicate the indices and other methods used to search for applicable literature, the terms searched with each, and the years searched (usually the last 10 or 20 years, plus key literature from earlier years). A review should address each topic highly applicable to the problem. For problems that are not well researched, the literature review may also address other topics that are tangentially related and might help inform the study. If the literature on a topic is voluminous—it is not uncommon to find more than 100 studies—you should be selective, covering the literature most applicable to the focus of your proposed research, as indicated by the research questions, hypotheses, foreshadowed problems, or conjectures. You should explain how selections were made as to what to include and summarize the literature—is it equivocal, is there a common methodology, are there common limitations? Consult with your advisor before beginning the literature search to make sure you are covering the topics and years of research that he or she thinks are appropriate.

Description and Critique of Scholarly Literature

Each major theoretical discourse, conceptual discussion, and empirical study should be described and critiqued briefly. Both the strengths and weaknesses should be identified. For theoretical discourses, indicate the source of the theory, overlaps, and disparities with other applicable theories, and whether and how well the theory has been empirically verified. For conceptual discussions, indicate the sources of the concepts, overlaps, and disparities with other applicable concepts, and whether and how well the concepts have been empirically verified. For empirical studies (including qualitative ones) indicate the research questions, methodological strengths and weaknesses, results (both their magnitude and their statistical significance or extent of cross-verification), conclusions, and implications. This section should also evaluate the merit of the research. For example, can it be accepted as evidence?

Organizing the written review can be a challenge because the review has several simultaneous purposes. Often the best strategy is to organize the studies under major topics, theories, constructs, research questions, or methodologies. When a given study addresses more than one organizational category, you might critique it under the first applicable category, and then briefly refer to it under each subsequent applicable category. Alternatively, in the subsequent organizational categories, you might extend the critique as appropriate for that category. When considerable literature falls within

one organizational category, it might be organized within second level categories. Otherwise the description and critique of literature might be presented chronologically. Lesser literature sometimes can be described and critiqued jointly, for instance, by indicating, "Several other smaller studies found... (Anderson, 2010; Baxter, 2012, Castro; 2005)."

You should avoid creating a biased review that only covers prior literature that supports your predispositions and disregards other literature. Similarly, you should consistently critique the literature. Do not ignore weaknesses in studies supporting your predispositions and do not be hypercritical of studies that contradict your predispositions. Failure to conduct a fair-minded review is likely to compromise your research.

Inferences for Forthcoming Study

Once you have described and critiqued the individual sources, you should analyze and synthesize across them to draw inferences applicable to your anticipated research. The inferences generally should be about: (a) the problem to be addressed in your research and its significance, (b) possible research questions, hypotheses, foreshadowed problems, or conjectures, (c) possible theoretical or conceptual frameworks to be used, and (d) possible research paradigms and methodologies to be used. The inferences might be stated at the end of each major topic of your review or after all the relevant topics have been discussed. The following questions may generate useful inferences: What does the literature state about the extent of the problem, its underlying causes, where it is most and least severe, and its consequences for theory, knowledge, practice, policy, and/or research? How have results of empirical studies varied according to the questions/hypotheses/conjectures that have been addressed? What conceptual frameworks have been applied and with what insights? How might the conceptual frameworks be modified or synthesized to provide new insights to this problem? Which research paradigms and methods have yielded the strongest results and which the weakest results, and why?

Theoretical or Conceptual Framework for Forthcoming Study

The conceptual framework is constructed by the student and it may include a theory or theoretical framework. (It might also be noted that as appropriate the theoretical/conceptual framework can be explicated in Chapter 1.) The theory or set of interrelated constructs provides perspective or a "lens" through which the research problem is viewed and through which the choices about the research will be made. It helps narrow down and focus the research. Note that a theoretical or conceptual framework works like a telescope or microscope, and thus it both enhances what you can see and also restricts your breadth of vision. For that reason, a conceptual framework should be used judiciously to help inform your study rather than to dictate all aspects of it. Sometimes important breakthroughs occur when a researcher abandons the commonly-used conceptual framework and applies one never before used with a given

problem. The definition of a theoretical framework or conceptual framework may vary by disciplinary field and thus the student should consult closely with her or his chair on this section of the dissertation.

Quantitative Research
The conceptual framework explains the key constructs studied and presumed relationships among them. It often has implications for the subpopulations studied, the variables measured, and the data analysis techniques that are used.

Qualitative Research
The conceptual framework often defines the perspective that will be taken in the research. It usually has implications for the interpretive paradigm and methodological approaches that are selected.

CHAPTER 3: METHODS

The methodology includes the procedures used to acquire empirical evidence and analyze it for purposes of answering research questions, testing hypotheses, examining foreshadowed problems, following up on conjectures, and going forward from exploratory questions. The choice of methodology should be made in light of the literature review and with careful deliberation. Small oversights can sometimes undermine a long and difficult study. Your committee will help you think through the appropriateness of the proposed methodology and will probably suggest some refinements.

Your approved proposal is considered a blueprint for research. You are expected to do everything indicated in that blueprint. In experimental research, it is usually expected that no changes will be made unless you encounter unanticipated problems that require modifications. In other quantitative research, such as quasi-experimental, longitudinal, and secondary data analysis, additions over and beyond the blueprint may be appropriate to deal with unanticipated opportunities. In qualitative research, the proposal outlines the broad parameters of the study, but usually several details are expected to be decided during the actual data collection and analysis. Changes in the planned research should be made only after consultation with your full dissertation committee. Changes in the plan will require the student to obtain approval from the GW Office of Human Research.

A few important aspects of the methods cannot be known until after the study has been conducted, such as the response rates from samples, errors or accidents in carrying out the planned methods, and whether the collected data meet the assumptions of the planned statistical analyses. Consequently, whatever is written in the research proposal about methodology may have to be updated when preparing Chapter 3 of the dissertation. Chapter 3 should be written in the appropriate tense for the proposal defense and then changed to past

tense for the final document. "Appropriate" tense means that things that have already been done (e.g., pretested an instrument) should be reported in past tense, but what you plan to do is in future tense.

The subsections indicated below are the components of the methodology and not necessarily subheadings of Chapter 3. Mixed-methods studies may benefit from the guidelines below for both quantitative research and qualitative research.

Overview of Methodology

Quantitative Research

Briefly re-introduce the problem and provide an overview of the methodological approach.

Qualitative Research

Briefly indicate the epistemology and theoretical perspective, if one is being used, that will shape the study, re-introduce the problem, and indicate the methodological approach to be used.

Research Questions and Hypothesis

Quantitative Research: State Research Questions/Hypotheses

State the specific research questions and/or hypotheses to be investigated. Research questions orient the researcher to the immediate task and are the basis for selection of the research design and methods. There are four basic classes of research questions: descriptive (e.g., "What is the achievement level of a given group of students?"); associational (e.g., "Is self-concept related to achievement?"); causal (e.g., "To what extent is self-concept related to educational achievement?"); and cost-benefit (e.g., "To what extent do the benefits of an innovative program exceed the costs?").

A study may have one or more general questions with several sub-questions nested under each. To answer the questions, you need to state the questions operationally (in terms of specific measures) and collect data on those measures. For instance, an operational statement of the above associational question is, "Are scores on the Dangerfield Self-Esteem Inventory correlated with the Iowa Test of Basic Skills?"

Hypotheses are used in experimental research and sometimes in quasi-experimental research and nonexperimental research. They create a bridge between the theoretical considerations that underlie the questions and the ensuing research process designed to answer the questions. Hypotheses are deduced from theory or induced from accumulated knowledge. They are predictive statements about the answers to research questions. For instance, there could be a hypothesis that, "Administration of Therapy A will raise scores on the Dangerfield Self-Esteem Inventory." Hypotheses should be based on the relevant literature.

Qualitative Research: State Foreshadowed Problem, Conjectures or Exploratory Questions

State the foreshadowed problems, conjectures, or exploratory questions that guided the inquiry. The conjectures or exploratory questions can be descriptive, associational, and process-oriented. Qualitative research answers questions in a holistic manner based on all or most of the available information, cross-verifying among several sources of information. The process often involves continual drawing of tentative inferences throughout the ongoing data collection and verifying those inferences with the subsequently-collected data.

In contrast to quantitative research, qualitative studies may result in emergent hypotheses articulated at the conclusion of the study during the interpretation phase (Chapter 5), or even changing research questions.

Research Procedures

Quantitative Research

Include a statement of the research design. Describe in detail the participants, instruments, data-collection procedures, and data-analysis procedures. Generally the description should be thorough enough that other skilled researchers could replicate your study from the description. The *APA Publication Manual* indicates that the methods section should normally have subsections for "participants," "apparatus" (or "materials"), and "procedures". That will work for experimental studies but may be awkward for some other types of quantitative studies.

- For the design, specify the specific type of research design you are using and then present an overview of the timing of data collection relative to any naturally occurring or induced intervention, the groups from whom data will be collected, any random assignment there might be to groups, and any statistical controls that will be used to control for possible initial differences in comparison groups. For descriptive and associational research questions, the designs are usually simpler than for causal questions, which require experimental or quasi-experimental designs.
- For the participants, describe the population of interest and whether the entire population will be used or if you will use a sample. If using a sample, describe the sampling frame and how well it corresponds with the population, the sampling procedures and sample size, the response rates, and missing data rates. Give the rationales for the decisions that you made about sampling, including any power estimates that were made. Indicate what you did in an effort to secure high response rates and to minimize missing data. Describe anything else that might have biased the sample.
- For the instrument, indicate whether you used established instruments with permission or created your own, and why. Some sources for established instruments are ericae.net and buros.org. Indicate available reliability and validity data for scores from established instruments and why this should hold for your

data. Indicate procedures used to develop, field-test, and determine the reliability and validity of scores from instruments you created. Append copies of all instruments except: (a) those developed by others and for which you cannot secure permission to include from the copyright holder, and (b) those that must be kept secured. Describe how data collectors were trained, monitored, and perhaps retrained.

- For the data collection procedures, indicate them. This will include information about the timeframe, number of contacts, nature of the contact (e.g., email, in-person, telephone, mail). Be sure to include information about securing informed consent. Report any irregularities known to occur during the data collection and the likely effects of irregularities.
- For the data analysis, begin by indicating the steps involved in the data management. This will include how data are recorded and stored and any manual data editing procedures. This will include data cleaning, treatment of missing values, and may include data reduction. This includes data entry and verification procedures and computerized checks for suspicious data. Indicate any data transformations and computation of scale scores and checks made to assure those were correctly programmed. Indicate coding procedures used for open-ended responses and precautions used to ensure valid coding. Indicate what data analysis procedures were used, beginning with reporting the response rate or sample size, any data collected to describe the sample, and how the sample is or is not representative of the population. If scale or subscale scores are used, report on the reliability. Finally, indicate what statistical analysis will be done to address each research question. Be sure you include all the necessary tests (e.g., post hoc procedures, effect size) and discuss how you will ensure that the data meet the assumptions of the analytic procedures.

Qualitative Research

Include a statement of the research design. Describe in detail how the inquiry was undertaken. Generally, the description should be thorough enough that other skilled researchers could approximately replicate your study from the description.

- Introduce the epistemology or research paradigm that will guide the inquiry.
- Explain the theoretical perspective that will drive the research, and why it was selected.
- Indicate the methodology used, and why it was selected.
- Indicate the specific methods used, and the justification for them. How were sites, cases, and informants selected? Why? Describe the methods used to collect your data. Why? What verification procedures were used in the field? How did you protect against imposing your biases on the data? Describe and append any interview guides, protocols, or rubrics used to assist in the data collection.

- Indicate how you managed your qualitative data. Did you take notes or make audio/video recordings? Who transcribed audio recordings, how, and when? Were any data not analyzed? Why?
- Indicate how you analyzed and interpreted your data, making sure the analysis was consistent with the selected methodology. Indicate when data analysis was begun and whether data analysis influenced subsequent data collection. If you inferred themes, explain how. If you coded the transcripts, explain the coding system, where the initial codes came from, and checks for coding reliability and validity. How did you analyze the data from the coding? How did you triangulate or otherwise verify findings? How did you interpret the full set of data?

Human Participants and Ethics Precautions

Summarize potential risks to humans from whom data are collected in your research, and summarize precautions taken to ensure informed consent (when needed) and to minimize the risks to participants in your research. This information can be drawn from the GW Office of Human Research Internal Review Board (IRB) Submission Form that must accompany your proposal. (Reminder: You must have approval from the GW Office of Human Research before beginning data collection). Also address other ethical issues, such as your possible conflicts of interest and personal biases that could have influenced the research, and how you minimized their effects. Include a statement about the ethical use of instruments or procedures that are the intellectual property of another. This acknowledgement may be in the form of appropriately citing, acquiring permission to use and/or modify an instrument, or the purchase of an instrument. After approval of your proposal, if events occur during the research that raise new risks to human participants, those should be reported to the GW Office of Human Research and should also be described here briefly.

CHAPTER 4: RESULTS

Data analysis, whether quantitative or qualitative, is intended to summarize a mass of information to answer the research questions, test the hypotheses, examine the foreshadowed problems, and/or explore the conjectures. The results are generally reported in Chapter 4 and then interpreted in Chapter 5. That is not possible for some modes of qualitative research, where analysis and interpretation are closely intertwined, but even then, the interpretation in Chapter 4 should be at a low level, with higher level, overall interpretations reserved for Chapter 5.

The text should tell a story and teach the result in an order that will be intuitive, interesting, and easily understood by a reader not previously informed about the subject. The text should highlight and emphasize what is most important. It should present more briefly the less-important results. Deciding which results are most important should be based on consideration

of: (a) the epistemology, theoretical foundation, or conceptual framework that guided the study, (b) the main questions, hypotheses, or conjectures of the research; (c) the magnitude and statistical significance or cross-validation of results, effect size as well as any necessary post hoc tests, as well as when results were strongly predicted and not found, which is also an important finding; (d) the consistency of the results across multiple measures of a construct and across similar constructs; and (e) the potential implications for theory, knowledge, practice, policy, and future research. Do not bury your reader in a flood of computer-generated statistics. That is likely to confuse them and make nothing memorable. Important results should generally be shown in a table, chart, or graph and mentioned in the text. They may also be illustrated with an example or two. Less important results might be shown in a table, but not mentioned in the text, or presented briefly in the text and not shown in a table or graph. If there are less important results whose complex details may be of interest to a few people, put those results in an appendix and have the text briefly reference the appendix.

Standardize key terminology in this chapter and throughout the dissertation. Although the use of synonyms for key concepts and variables can minimize repetition, it may also leave readers unsure whether the differing terms represent somewhat different things.

The results need to be reported in sufficient detail to justify any subsequent conclusions and recommendations, which are normally reported in Chapter 5. When you sit down to write Chapter 4, review both the guidelines for it herein and the guidelines below for Chapter 5. Then, as you write Chapter 4, keep a separate list of points that might be discussed in Chapter 5.

The subsections indicated below are about various aspects of the reported results and would not be used as subheadings in Chapter 4.

Organization

Quantitative Research

If data on the setting of the study or demographics are not needed to answer the research questions or test the hypotheses, they are usually presented near the beginning of the chapter. The results of the analyses are presented to report the response rate or sample size and any demographic information about the participants or setting. This may include analyses that examine the fit of the sample to the population. Results related to the reliability of the data should be reported and compared to previously reported uses or your pilot testing. Having established to whom the results apply and that the data are reliable, the research questions are addressed. Generally, the results should be presented in the order in which the research questions or hypotheses were stated in Chapter 3. Note that a good order for items in an interview or survey will often not be a good order for presenting the results. The results should be ordered so that they can easily be understood by a reader naive to the subject.

Qualitative Research

The structure of Chapter 4 should be determined by the purposes of the study and needs of a reader naive to the subject. This may include organization by research question(s),

emergent analytic themes, and conventions of particular research methodologies. The trustworthiness of the data should be addressed in a manner consistent with the methodology.

Text

Quantitative Research

The text should focus on the most important results and devote less attention to the less important results. All results should be indicated, but not necessarily reported individually. For instance, if you did a series of analyses relating the outcomes to demographic characteristics and there were no statistically-significant results and that was not surprising, it may be preferable to say that in one sentence rather than report each of those individual results. The text should also note patterns and inconsistencies among the various results. Make sure to briefly report response rates and item-completion rates for each data-collection effort.

Qualitative Research

The critical challenge for most qualitative research is distilling down hundreds of pages of notes or transcripts to a manageable presentation for readers. The text should focus on the most important results and devote less attention to the less important results. It is common in qualitative research to report chunks of the raw data. These should be used judiciously and selectively to aid in the presentation of the important results. The chunks should be shortened as much as possible while still illustrating the intended points. A few short examples will generally be more convincing than one long example. Make sure that your reporting does not violate representations made in your Informed Consent materials. The text should reveal both patterns and inconsistencies in the results.

Reporting Statistics

Quantitative Research

Mean values should always be accompanied by their standard deviations, and the "n"s (unless the "n" is consistent for all analyses). For main results, it is desirable to report both the "p values" along with the alpha used (statistical significance) and indications of the magnitude of the results, including mean differences and effect sizes. When results are not significant, discuss whether low power of the statistical analysis may have obscured real differences or relationships. The *APA Manual* has specific guidelines for reporting results.

Qualitative Research

For some qualitative methodologies, descriptive statistics of frequencies and correlations may be used to summarize coded data derived from field notes and transcripts. Usually, it will be inappropriate to report statistical significance because the sampling that is commonly used in qualitative research does not meet the assumptions of statistical significance.

Tables, Graphs, and Charts

Quantitative Research

Tables are a good way to present many results in a condensed format, but most people find large tables of data overwhelming, so the text should highlight the most important results. You might also bold the most important results in the table. The text should not duplicate what is in the table. Figures (i.e., graphs and charts) naturally highlight results, if kept reasonably simple and presented well. In every case, there should be preceding text introducing a table or figure. There may also be text afterward, discussing additional points. Tables and figures should be formatted in accordance to APA formatting guidelines.

Qualitative Research

For some qualitative methodologies, summaries of codings derived from field notes and transcripts may be presented in tables or figures. In every case, there should be text before each such presentation introducing it and highlighting the most important findings. There may also be text afterward, discussing additional points.

Raw Data

Quantitative Research

Raw data for individual participants are usually not reported in the dissertation, unless there were only a small number of participants. Some illustrative quotes are, however, often included. Make sure that your use of quotes does not violate representations made in your Informed Consent materials. This seems most pertinent for mixed methods studies where you have open-ended responses. When the full data set can be printed on a few pages, it may be included in an appendix.

Note: The *APA Manual* indicates that raw data should be kept for at least five years, and that you are generally obligated to make your data available to others for reanalysis.

Qualitative Research

Full transcripts are rarely included in a dissertation. See Chapter 4: Text above about reporting chunks from the transcripts.

Note: The *APA Manual* indicates that raw data should be kept for at least five years, and that you are generally obligated to make your data available to others for reanalysis.

CHAPTER 5: INTERPRETATIONS, CONCLUSIONS, AND RECOMMENDATIONS

This is the chapter in which you give meaning to the results partly by tying them to past theory, research, policy, and practice and partly by extrapolating them to future theory, research, policy,

and practice. Chapter 5 is a time for imagination and boldness, but with scholarly caution. The interpretations, conclusions, and recommendations must have some basis in your study and are more credible if also based on prior literature.

Chapter 5 is often the weakest one in the first draft of the completed dissertation. Students often are exhausted from the prior work and are rushing to finish Chapter 5 by a deadline. They usually learn to appreciate that Chapter 5 requires a change in mindset. Chapters 2, 3, and 4 require the student to progressively narrow the focus and then Chapter 5 requires them to broaden their perspective.

Try to take a break of at least several days after completing Chapter 4 before you start writing Chapter 5. Prepare for writing Chapter 5 by reading the guidelines below; your statement of the problem, significance, and limitations in Chapter 1; your literature review in Chapter 2; your entire Chapter 4; and your notes made when writing Chapter 4 of points that should be included in Chapter 5.

The subsections indicated below are of the common components of Chapter 5 and not necessarily the subheadings of the chapter.

Opening

Begin with a very brief summary of the problem addressed and the main results of your research.

Interpretation (Discussion of Findings) and Conclusions

The results should be interpreted in light of the full set of results, the applicable literature, the theoretical foundation or conceptual framework used, and the limitations of the study and literature. What do the results mean and what do they not mean? What are the possible causes of the results? What are the possible consequences of the results?

When addressing these questions, it is useful to distinguish what was learned with reasonable assurance, what was suggested only tentatively, and what was not learned. When the evidence is overwhelming, make your statements authoritatively. When the evidence is only suggestive, add caveats to your statements such as, “The results suggest ...,” “It appears ...,” or “It could be that ....” Informed speculations are appropriate and useful in the interpretations, as long as you signal the reader that you are speculating.

The interpretation of statistically significant and large results is usually straightforward. Interpretation of statistically significant and small results is often. Statistical significance only means that some association or difference probably (with a small chance of error) exists in the population, NOT that it is important. Statistically significant small associations or differences may be of little or no use for organizational or programmatic purposes. On the other hand, if an expensive program or structure has provided little improvement, it may be important to know this so that efforts are made to improve the

program or structure or to redirect the resources to better uses. Finally, the failure to find statistically significant results may be due to low power and may hide a real association or difference in the population.

Although statistical significance is rarely tested in qualitative research, the underlying principles expressed in the above paragraph are applicable. It is important to assess the magnitude of the results. Small results may be useful for refining theory or informing management, but they should not be touted as means of making large improvements in practice.

Conclusions are generalizations and contextually grounded statements (in the case of qualitative inquiry) that tie back to the existing literature. The conclusions may be about the problem that was addressed or about theory, conceptual frameworks, policy, practice, or research. Conclusions indicate what is now known when your results and the prior literature are considered together. Conclusions are not the same as research findings/results and should not be a restatement of the findings/results from Chapter 4. A conclusion should be broader and more encompassing than a specific result/finding, and several findings may be incorporated into one conclusion. For each conclusion, you should briefly cite the results and literature that support it—either before stating the conclusion or after stating it. Double check each conclusion—although some of your results may support a given conclusion, some of your other results may actually contradict it. If the literature reports results similar to yours from studies with different populations or settings, that can be a basis for cautious generalization beyond your population and setting. On the other hand, if there are no other studies similar to yours, or the other studies' results contradict yours, be careful not to over-generalize your results. Conclusions may be included in the Interpretation section or a separate following section.

Recommendations

Recommendations are suggestions for action that are based upon the results and the applicable literature, with consideration for the limitations of both. The recommendations can be for modifications or new initiatives in theory, practice, and policy. They can also be for future research—new problems that have become apparent, new research questions raised by the results, and conceptual frameworks and methodologies that seem to hold promise or should be avoided in the future. When formulating recommendations, try to anticipate implementation difficulties and unintended negative consequences. There always can be multiple recommendations for a given purpose, and the first recommendation that you generate may not be the best one. The tone of recommendations can range from tentative to advisory to exhortative, although the latter is inadvisable in dissertations because they are considered the work of neophyte scholars.

STYLE AND FORMATTING GUIDELINES

General University formatting guidelines, published by Gelman Library, govern the page margins, page numbering, page order, and formatting for dissertations.

University-wide formatting requirements are available online at library.gwu.edu/formatting-etd-content, and GSEHD-specific examples are available at library.gwu.edu/gsehd-etds.

Students should also plan to consult the Library's ETD website for more complete information about best practices, publishing options, and deadlines.

Citations

All GSEHD dissertations should reflect APA formatting. The GW Library provides citation guides and related references here: https://libguides.gwu.edu/styleguide.

SUBMISSION GUIDELINES

GW requires all dissertations to be submitted electronically. The GW ETD website (library.gwu.edu/gw-etds) will guide you through the process of uploading your document as a PDF file and electronically submitting it to ProQuest and Gelman Library. Please note that you must upload your final dissertation before the Library's ETD Approval Deadlines in order to graduate in the current semester.

DISSERTATION RESOURCES

Dissertation Support Group

The Dissertation Support Group (DSG) is designed for students to join from the semester they become doctoral candidates and to provide a repository of materials to refer to while writing a dissertation. Session content contains dissertation examples, reference materials for each chapter of the dissertation, program-specific resources, links to GW and GSEHD resources, and information related to associations and academic conferences. Please reach out to your chair or to docgsehd@gwu.edu for more information about DSG.

Dissertation Books

American Psychological Association. (2019). Publication manual of the American Psychological Association. (7th ed.) Washington, DC: American Psychological Association.

Balian, E. S. (2011). The graduate research guidebook: A practical approach to doctoral/masters research. (4th ed.) Lanham, MD: University Press of America.

Bolker, J. (1998). Writing your dissertation in fifteen minutes a day: A guide to starting, revising, and finishing your doctoral thesis. New York, NY: Henry Holt and Company.

Cone, J. D. & Foster, S. L. (2006). Dissertations and theses from start to finish: Psychology and related fields. (2nd ed.) Washington, DC: American Psychological Association.

Creswell, J.W. (2013). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Thousand Oaks, CA: Sage.

Davis, G. B. & Parker, C. A. (2012). Writing the doctoral dissertation: a systematic approach. (3rd ed.) Hauppauge, NY: Barron's.

Glavan, Jose (2006). Writing literature reviews. (3rd ed.) Los Angeles, CA: Pyrczak Publishing.

Hawley, P. (1993). Being bright is not enough: The unwritten rules of doctoral study. Springfield, IL: Charles C. Thomas Publisher.

Joyner, R.L., Rouse, W.A., & Glatthorn, A.A. (2012). Writing the winning thesis or dissertation: A step-by-step guide. (3rd ed.)Thousand Oaks, CA: Sage.

Leonard, D. (2001). A woman's guide to doctoral studies. Buckingham and Philadelphia: Open University Press.

Leukenfeld, C. (1995). Applying for research funding: Getting started and getting funded. Thousand Oaks, CA: Sage.

McMillan, J. and Schumacher, S. (1995). Research in education: A conceptual introduction. Glenview, IL: Scott, Foresman, and Company

Phillips, E. M., & Pugh, D. S. (2000). How to get a PhD. Maidenhead, UK and Philadelphia, PA: Open University Press. [From a British perspective, but much useful info.]

Rugg, G., & Petre, M. (2004). The unwritten rules of PhD research. London, UK and New York, NY: Open University Press.