SCHOOL OF EDUCATION DISSERTATION HANDBOOK

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The Purpose of the Handbook

The *SOE Dissertation Handbook* was developed as a guide to take the learner-researcher through the process of developing a three-chapter proposal, converting a three-chapter proposal to the first three chapters of a dissertation, and completing chapters four and five of the dissertation. This *handbook* should be used as a supplement to the *Capella Dissertation Manual*, which provides an overview of the dissertation process and an overview of each of the five chapters. It is recommended that the *Dissertation Manual* be read first so that the learner-researcher understands the dissertation from the broadest perspective before developing each chapter.

The *handbook* begins with an explanation of the dissertation proposal, describes some key processes for selecting a topic, and describes the scientific merit review approval process. These introductory sections are followed by five chapters corresponding to the three-chapter proposal and chapters four [data analysis] and five [results, conclusion, and recommendations] of the final dissertation.

The purpose of the handbook is to save learner-researchers time by explaining the related developmental processes and to provide step by step details for completing each chapter and its sections. The handbook is not intended to be the single authoritarian set of instructions. Each School of Education Specialization might have preferred dissertation outlines, the need for additional sections, or might make sections contained herein optional. Note also that mentors and committee members might have preferences that deviate somewhat from the handbook.

This *handbook* provides detailed instructions that guide the conceptualization, planning, and development of a proposal and dissertation. The guide adheres to the rules and conventions of the APA publication manual 6th edition and also includes the Capella deviations from the APA publication manual 6th edition that are detailed in the Capella *Dissertation Format Guide* and thus this *handbook* can serve as a visual model for APA formatting. Note for example how each Chapter begins on a new page. The style of writing in this *handbook* differs in one significant way from the proposal and dissertation you will develop; that is, most of this *handbook* is written in the second person voice [e.g., . . . you . . . your . . .], while your proposal and dissertation are written in the third person voice.

It is recommended that you carefully read through each chapter of the guide before preparing your draft proposal. This initial orientation will provide you with a comprehensive understanding of what goes into a dissertation chapter-by-chapter. This *handbook* and its appendices provide many useful examples. You may find it helpful to use the proposal template table of contents in conjunction with this guide to get an overview of the sections in each chapter.

Introduction

Understanding the Big Picture: What is a Dissertation Proposal and What Does It Do?

The proposal is a three-chapter document that proposes a study to be conducted for a dissertation. Research as disciplined inquiry is the application of systematic data collection and analysis to increase our understanding of some phenomenon, problem, or issue. A well-defined dissertation proposal focuses on a significant problem that emerges from the literature (research

and theory) and/or practice. A dissertation proposal is built upon a foundation of published theory and research, which is called a theoretical or conceptual framework.

The *Capella Dissertation Manual* (2011) provides insight regarding this foundation by stating:

> The dissertation is not just descriptive; it has a sound extant basis or a well-developed conceptual basis that leads to the question(s) under investigation. This basis serves as the origin for conclusions and inferences that lead to further research, to enhanced theoretical understanding, and to recommendations for organizational improvement [in cases of action science] (p. 8).

A proposal should lead to a dissertation that will make a significant, meaningful and useful contribution by (a) producing new knowledge, and (b) advancing, testing, refining, extending, or challenging theory or the assumptions or expectations of a conceptual framework.

Once a proposal is approved by the mentor, committee members, the Scientific Merit Reviewer, the Specialization Chair, and IRB, the learner-researcher holds a proposal conference call. At the proposal conference call the learner-researcher presents the proposed study and the committee members raise questions and provide comments after which they conclude with a vote to approve the proposal. Once the learner-researcher receives approval, the learner-researcher can begin the study. Typically at that point the learner-researcher also begins to revise the proposal transforming it into the first three chapters of the dissertation. That transformation is not difficult as it requires replacing the proposing language [in future tense] with past tense language since a dissertation is a formal report of a study that has been conducted.

Topic Selection

The topic a learner-researcher selects is important. Here are two four key process steps:

Step 1 Select an Initial Topic

The first step in the dissertation process is selecting an appropriate topic. Once defined, the topic leads to a study that contributes to knowledge and/or practice within the learner's specialization.

Step 2 Narrow the Topic

It is typical for a learner-researcher to begin with a broad topic of interest that will need to be narrowed down to a manageable and researchable focus. The process of identifying topic, connecting the topic to both the literature and practice problems, and narrowing the focus is both challenging and creative. Chapter 4 of the Capella *Dissertation Manual* provides a simple and effective exercise (p. 28) for constructing a dissertation title that leads to a plausible dissertation topic. Pages 29-35 of the Capella *Dissertation Manual* provide the characteristics of a good topic, and the steps to validate and manage the topic.

Defining the research topic and beginning to write the proposal requires immersion in the literature about and surrounding the topic or research interest area. Strategies that help identify and narrow the topic might include selecting a topic or problem that emerges from the literature. For example, one of the best sources for a dissertation topic is from the recommendations for further research provided in a current peer reviewed journal article that reports a study related your area of interest. Using the recommendations for further research provided by another researcher can document an unresolved practice problem and meet the criterion that the dissertation is building upon research and theory. Following a current recommendation for future or further research can also provide a clear road map to follow with a narrow focus and a significant topic that is highly defensible. Typically it is not difficult for a learner to frame a recommendation for research from the perspective a practice problem; that is, as framed as a gap

in knowledge – something that is missing or unknown but important to practitioners and scholars.

Although it is not unusual for learners to have research interests common to several disciplines or to the field of education in general, the topic selected must be a topic that emerges from the learner's specialization within education. The identification of an appropriate and narrowly focused dissertation topic provides an opportunity for mentee and mentor collaboration. Since mentors are critical to the mentees' success in working through all proposal and dissertation stages, the mentor plays an important role in approving an appropriate topic.

Step 3: Test the Topic by Asking: So What? Who Cares?

A dissertation topic needs to lead to a study that has meaning and value. Asking "*so what*?" or "*who cares*" are layman terms for asking about the rationale, importance, relevance, and significance of the proposed study. In a more formal sense, each proposed study must demonstrate ***scientific merit.*** Although Capella does not have university-wide definition of scientific merit, all of Capella's schools share some common expectations for scientific merit, such as

- The study addresses an important problem.
- The study will make a significant contribution to knowledge base.
- The research question has not already been answered by the existing literature.
- The study will generate, extend, refine, or test theory.
- The major components of the proposal [research problem, purpose, research questions, data collection, and data analysis procedures] are in complete alignment.
- The research questions can be adequately answered by the research design [including the sample, and the data collection and analysis procedures].

- The researcher possesses the requisite content, methodological, and ethical training and knowledge to complete the study.

Dissertation learner-researchers are passionate about their dissertation ideas and topic. This passion is an important component of the dissertation experience; it translates into persistence and determination; it is essential as a motivator toward dissertation completion. However…keep in mind that the passion for the topic must incorporate thinking about the appropriateness, rationale, and justification for the study---scientific merit. Some topics and proposed studies, therefore, will not work for a dissertation. Thus to avoid a mentor or committee member's "*so what*?" or "*who cares*?" response, careful consideration needs to be given by both the mentee and mentor to the scientific merit of the proposed study.

Step 4: Feasibility

In addition to scientific merit and ethical soundness learners must also determine if a proposed study is feasible. Before writing Chapter One a learner must consider a number of practical issues such as

- What will be the cost of conducting the study?
- What is the availability of funding?
- What equipment might be needed?
- Where will the study take place and what site permissions are required?
- When and how will contact be made with potential sites to obtain permission to conduct the study? [Note that certain sites such as schools, universities, the Veteran's administration, hospitals, military bases, etc. have their own IRB or equivalent review and approval process].

- Will the research take place at the researcher's place of work? If a study is conducted in a learners' place of work will there be a potential conflict of interest that needs to be mitigated?
- How much time might it take to complete the study?
- Have appropriate instruments been found, if applicable? Has the learner sought permission for using the instrument? If a new instrument is needed, has the learner considered the developmental process and how to amass some initial evidence of the validity of the instrument?
- What considerations has the learner given to the potential participants? What sample size can realistically be achieved? What are the obstacles to participation? Does the learner have an existing relationship to the participants that could create a conflict of interest? Does the learner have the necessary expertise to carry out the study?

Preparing to develop the first chapter of a dissertation requires careful planning and the consideration of a number of factors to determine if the study is appropriate and feasible.

The Scientific Merit Review Process

Beginning with the spring quarter 2011 the School of Education requires learner-researchers and their mentors to obtain Scientific Merit Review approval prior to developing the proposal for a dissertation. Please refer to pp. 7-8 above for the common expectations for scientific merit. Capella's leadership designed this Scientific Merit Review process to facilitate proposal planning early in the proposal process and to ensure learners plan dissertation studies that have scientific merit.

Prior to this Scientific Merit Review process learners typically began the proposal stage by developing a pre-proposal, concept paper or some other form of communication that reflected their ideas about a dissertation. The new Scientific Merit Review (SMR) process replaces the pre-proposal or equivalent process with a new SMR form. The Scientific Merit Review process requires two approvals: (a) Sections 1 and 2 need to be approved by the mentor and Specialization Chair; and sections 3, 4, and 5, which reflect the potential contribution of the study and its methodological details, need to be approved by a Scientific Merit Reviewer.

Section 1 of the SMR form includes the identification of a title, the research topic, the research problem, and the research questions. Section 2 includes a brief description of the proposed methodology. Once the learner completes Sections 1 and 2, the learner sends it to the mentor for review and approval. At this early stage it is typical for the mentor and mentee to set up a phone call to explore the potential topic and study. Once the mentor approves Sections 1 and 2, the mentor sends the SMR form to Specialization Chair for review and approval. Once the Specialization Chair approves Sections 1 and 2, the learner completes Sections 3, 4 and 5, which includes the scientific merit questions and research design details.

As with Sections 1 and 2, completing draft Sections 3, 4 and 5 should lead to mentor/mentee discussion and collaboration. Once the mentor approves Sections 3, 4, and 5, the mentor sends the SMR form to the Specialization Chair for review and approval. Once the Specialization Chair approves the SMR, the learner can produce a three chapter proposal. Note that the learner can be drafting components of the proposal during the SMR process but the actual proposal will not be submitted until after the SMR approval.

Please understand that it is impossible to develop a SMR form without having been immersed in the literature related to your topic. A learner-researcher needs to have a good

understanding regarding how their topic is supported by the literature [research and theory]; that is, learners need to know: what is known about the topic, what is unknown about the topic, and what new knowledge about the topic is worthy of researching.

Scholarly Writing

A dissertation proposal is a scholarly document. Scholarly means that the writing follows prescribed rules, formats, and conventions that are distinctly different from those for creative or technical writing. At Capella University scholarly writing is informed by the *Publication Manual of the American Psychological Association,* 6th edition. As with other guides for scholarly writing, the *APA manual* prescribes a *reader-based* form of writing. *Reader-based* means that the researcher's writing should be clear, precise, accurate, and concise. *Reader-based* refers to writing that is reader-friendly. *Reader-based* writing is writing that allows a reader to follow a researcher's claims, warrants, and explanations in such a way the reader does not need to make assumptions or leaps of faith to understand what is being communicated. It may be useful to hold an image of the reader as a person of average intelligence who may not have an in depth knowledge of the researcher's discipline; thus, a researcher should not make assumptions regarding the reader's knowledge or background. It is critical then to write in a clear and unambiguous manner so that reader will not have questions or challenges. Additionally, infusing the writing with abbreviations and acronyms from the researcher's discipline can distract from the *reader-based* clarity a researcher attempts to achieve. It is also important to consider the reader as intelligent enough to critically analyze the researcher's assertions and claims. Thus, in a *reader-based* format it is important that a researcher show all sides of an issue and to provide in text citations from content experts or evidence in support of all assertions.

Here is a reminder of the most important attributes of scholarly writing, all of which reflect the aim of the APA publication manual:

1. Be precise and accurate in your writing [See APA 6th ed. pp. 68-71].
2. Be crystal clear in your writing – don't cause your reader to make assumptions [See APA 6th ed. pp. 68-86].
3. Be objective [use valid reasoning throughout and support every assertion or claim you make with evidence e.g. in text citations serve as evidence as well] [See APA 6th ed. pp. 12-15].
4. Avoid colloquial expressions, conversational writing, and anthropomorphisms. Avoid slang and conversational language that is not clear, precise or accurate. For example, to say an individual "feels" when you really mean the individual "thinks" or "believes" is a colloquialism used in conversations but is not accurate so avoid conversational expressions like this. Scholarly writing is meant to be read literally and therefore avoid giving inanimate objects the attributes of a human being [See APA 6th ed. pp. 68-71]. Here are other examples
    - The author went on to say . . . [conversational writing]
    - The study shed light on . . . [colloquialism]
    - The researchers looked at . . . [colloquialism]
    - The study looks at . . . [anthropomorphism]
    - The findings will assist practitioners with . . . . [anthropomorphism]
    - This study will . . . [anthropomorphism]
5. Avoid pronouns and contractions – pronouns are too ambiguous [use *we*, *our,* and *us* only when you have a co-writer. Avoid he, she, they, them, his, her. Avoid stand

alone pronouns such as *this*, *that, those, each, most, many, some, few, both, two, three, same, first, last* [See APA 6th ed. p. 68].

6. Avoid biased or sexist language. For example, use *police officers* instead of *policemen* [See APA 6th ed. pp. 70-77].
7. Use abbreviations and acronyms sparingly – do not make your reader memorize abbreviations and acronyms that while these abbreviations and acronyms are familiar to you, might not be familiar to your readers. Spell out the precise words instead [See APA 6th ed. p. 106].
8. When discussing or presenting research and literature, consistently use past tense verbs [e.g., Smith (2005) found that . . . Jones (2004) argued for . . .]. [See APA 6th ed. p. 78].
9. Make smooth transitions between sections or the ideas, concepts, theories or models you are presenting [See APA 6th ed. pp. 63-88].
10. Remember paragraphs are coherent entities that have an introductory sentence, a body of content, and a final sentence that brings closure to the opening sentence and can also be used to smoothly transition the reader to the next paragraph [See APA 6th ed. p. 68 and any English text books such as Strunk & White, Harbrace College Handbook].
11. Support all of your assertions with in text citations or other forms of evidence. Present a statement, clarify the statement, and delimit the statement if necessary. Show evidence or proof that the statement is true or can be corroborated, and provide a concrete example to clarify and illuminate your statement. An in text citation for research or other literature that supports your assertion is considered a form of

evidence. Note that in scholarly writing every point of information offered should integrate your claims (the ideas being argued) with evidence (the verifiable information that leads to or supports those ideas). There is no narrative without a point; no opinion without a logical synthesis of reliable data; no presentation of data without a discussion of the implications of that data. The scholarly style of writing always exhibits a cogent integration of evidence and claims - in other words, an argument in the classical sense of that word [See APA 6th ed. pp. 12-15].

12. Meticulously follow APA formatting and conventions. See for example APA seriation rules, pp. 63-65 [e.g., The participant's three choices were (a) working with another participant, (b) working on a team, and (c) working alone.

Note that paragraph 11 above provides a mini-format for how to produce scholarly writing. Scholarly writing is *reader-based* writing. Here are some questions that a scholarly writer might use to self-assess:

- What is the destination I have in mind for my readers? In other words, what do I want my readers to conclude about what I will present?
- What do my readers need to know in order to get to that destination?
- What questions will my readers think of that I need to anticipate and answer?
- How can I map out the path of logical thinking so that my readers can follow thought flow?
- What problems might my readers encounter on the path of my thought flow that I can solve now with clear and precise writing before my readers get there?

Some Other General Rules to Keep In Mind

For a proposal always keep in mind that you are proposing a study. Do not use expressions that are not literally true such as: *this study . . .* Since you are proposing a study, it is not accurate to state "*this study*" because the study does not exist] instead, throughout the proposal refer to your potential study as *the proposed study* or *the proposed research.* Remember scholarly writing needs to be clear, precise, accurate, and concise. Scholarly writing, in general, is meant to be read and interpreted literally. One exception might be the use of metaphors in clarifying the findings of qualitative study.

While the emphasis in PhD research tends to be on theory and research published primarily in peer-reviewed scholarly journals, it is important to comment on several other types of sources that learners commonly encounter [e.g. books, seminal or classical works, practitioner articles, etc.] and their appropriateness for inclusion in a dissertation and chapter 2. While it is a good idea to review dissertations as part of your preparation to propose a study, for the most part, dissertations are *not acceptable* as sources to be cited and discussed in dissertations; they should never be replicated and certainly can not be the sole or primary basis for a dissertation. There are several reasons for this, including the fact that the quality of dissertations varies widely, regardless of the sponsoring university, but perhaps more importantly since these are not published in peer-reviewed scientific/scholarly journals, they simply are not part of the knowledge base represented in "the literature." The one exception might be when a dissertation resulted in a new instrument (e.g., survey) being created in an area where no other instrument exists, and this instrument meets the requirements for any other instrument a learner chooses to adopt (e.g., appropriate purpose and population; suitable evidence validity and reliability has been amassed and reported).

CHAPTER 1: INTRODUCTION

Introduction to the Problem

Your introduction to the problem should achieve the following objectives (a) introduces your reader to the problem, (b) provides your reader with a clear understanding of the problem in a concise yet complete manner, and (c) demonstrates that your problem is worthy of further investigation.

Background, Context, and Theoretical Framework for the Problem

This section provides the necessary information so that your reader understands the background of the problem and context in which the problem is occurring. Therefore, the objectives of this section are: (a) to provide a brief overview of research related to the problem; (b) to identify and describe the key components, elements, aspects, concepts of the problem (note that often a historical approach from early research or work in the area to the most current research might be the most appropriate means to describe the background and context); (c) to provide your reader with an understanding of how the problem arose and the specific context within which the problem is occurring; and (d) to briefly introduce your reader to the theoretical framework and how that framework either supports the proposed study or provides a theoretical context for developing the research problem [note that this component needs to be clear and succinct and should provide the reader with an overview but can direct the reader to Chapter 2 where a complete section is devoted to the theoretical framework]. The length of this section will depend on the complexity of the problem. For many learner-researchers it might make more sense to first develop a working draft of the literature review [Chapter 2] since a good portion of

this section is a brief summary of the related literature. Typically background sections are five to eight paragraphs but can be longer when the problem is complex and/or has an extensive history of investigation.

More Detailed Instructions for the Background Section

Because Capella adheres to a scholar-practitioner model of research, the research problem should meet two criteria (a) can be viewed as emerging from a significant practice problem for practitioners related to your specialization, and (b) can be supported by the literature [published research and theory]. Your completed study must produce findings that reflect *new knowledge* that is useful to practitioners, that is related to and extends what is already known [research and theory], and that will be of value to both practitioners and scholars. This intersection of practice and literature reflects Capella's emphasis on the scholar-practitioner model.

It may be helpful to conceptualize and describe the problem at three levels (a) first the broad high level problem that you cannot solve [e.g., the declining emotional health of college freshmen who feel defeated by the recession, still stressed by the pressures of high school, and taking psychiatric medication, often prescribed before they came to college], (b) then the problem for practitioners [e.g., campus counselors need more effective strategies to help with the growing problem of freshman stress, depression, and related problems from psychiatric medication], and finally (c) the narrowed down researchable problem that is manageable [the need to develop and test new interventions synthesized from research and best practices aimed at proactively helping stressed, depressed and medicated college freshmen]. The researchable problem generally reflects a gap in our knowledge regarding some narrow aspect of the broader problem. Once you identify a gap, ask your self: "How is that knowledge gap creating a problem

for practitioners with your discipline?" Remember, the purpose of research at Capella is to increase our understanding regarding some problem, condition, or phenomenon related to professional practice.

Start with the broad general problem of interest and move to a discussion of the problem faced by practitioners. Describe the setting(s) in which the problem occurs and who is affected by the problem. Describe the negative effects resulting from the problem. Then focus on the narrower researchable problem. What aspect of this problem is researchable?

The next step is to describe what you found in the literature regarding the problem. You can either structure this section by weaving in the literature into the description of the problem at three levels, described above, or first describe the three levels and then move to the literature.

What do we already know about the problem? What are the current most plausible explanations of the problem and recommendations for solutions? Analyze, evaluate and describe the underlying evidence supporting the current explanations for the problem. How valid was the research? Were there issues or controversies with the related research studies? What issues remain to be understood? What recommendations have been made by the current research studies?

The background section should reflect a brief summary of your Chapter 2 literature review. Dissertations and the proposals for dissertations are built upon research and theory. The need for a research and theoretically-based foundation is an important point to remember. Dissertations at Capella also need to make a significant contribution to both practitioners and the scientific community. This significance requirement is another reason that dissertations must build on a framework of existing research and theory. Dissertations produce new significant knowledge that increases our understanding about a problem and within the process of producing

new knowledge dissertations also test, refine, extend, advance, or challenge theory typically through findings that confirm or disconfirm theoretical assumptions or expectations. Within this background section identify the problem you want to research and identify the relationship of the problem to the existing research and theory. A common means for making this connection is to select a topic or problem that emerges from the literature. For example, one of the best sources for a dissertation topic is from the recommendations for further research provided in a current peer reviewed journal article that reports a study related to your area of interest. Using the recommendations for further research provided by another researcher can document an unresolved practice problem and meet the criterion that your dissertation is building upon research and theory and will provide you a road map to follow, with a narrow focus, and a significant topic that is highly defensible. Often the problem arises from the learner's experience or observations within the learner's profession or workplace. The key to making a workplace problem a dissertation topic is to be able to make a solid connection between the problem and existing research and theory related to the problem. If you cannot connect your potential problem or topic to research and theory so that you can build upon a foundation of research and theory, you will probably need to select another problem or topic. Use the background section to introduce research and theory literature that will become the foundation or framework that supports your study.

Statement of the Problem

In the preceding section you described a practice problem that is connected to the literature [research and theory]. If you are following the recommendations of another researcher, use quotations and in text citations in the background section to demonstrate how the need to

investigate the problem is supported by the literature. The statement of the problem is an unambiguous paragraph that states explains the need for research. The statement of the problem section should begin with a statement of the broad problem, which should be followed by the identification of the practice problem faced by practitioners. The paragraph should conclude with a narrowly focused, manageable, and researchable statement of the problem. Therefore, the last sentence in the section is typically the researchable problem statement – a sentence that will align to the purpose statement and research question(s). The researchable problem statement should clearly indicate the narrowly focused problem, issue, phenomenon, or condition that will be researched. Typically the researchable problem reflects a gap in the knowledge base that is impacting practitioners in the researcher's discipline/profession that the researcher will attempt to begin to fill [i.e., the problem reflects what is unknown or what is missing from the literature]. The statement of the problem should be nearly identical to the purpose of the study statement and the primary or central research question. The problem statement, the purpose statement and primary or central research question will only vary slightly in their wording but the essence of each should be identical and uniform for all three sections. The problem statement will lead to the purpose statement, which in turn will lead to the primary or central research question. The problem statement will clarify, outline, limit and bring into being a distinct image of the problem to be investigated. The most effective problem statements are (a) simply expressed, (b) to the point, and (c) clear in stating the nature of the problem. The researchable problem statement logically concludes the statement of the problem section. Below is an example problem statement that will drive a quasi-experimental design study.

Example of a Problem Statement for a Descriptive Survey Study

Healthcare errors have been a leading cause of death in America (American Hospital Association, 2009). An estimated 1.4 million injuries occurred annually in America due to medication errors (U.S. Food and Drug Administration, 2009). Medication errors are a significant public health risk (Cohen, 2008) and are estimated to comprise approximately 40% of all medical errors (Ulanimo, O'Leary-Kelley, & Connolly, 2009). Nursing programs and nursing educators are responsible for preparing nursing students to perform medication administration procedures competently and safely. Although research and accreditation and licensing processes have made some progress in learning more about healthcare error reduction, much more needs to be done to reduce medical administrative errors to ensure basic safety (Alexander & Fizell, 2010, Galloway & Whitman, 2009, Kohn, 2009, Rivard, 2010). Little is known regarding the potential benefits of infusing nontechnical skills training such as situation awareness into nursing education for the purposes of reducing errors and promoting patient safety (Wheeler & Wheeler, 2010). Therefore, the research problem is a need to develop and test new teaching interventions such as situation awareness training used in conjunction with clinical simulations that target reducing medication administration error and developing prevention skills.

See Appendix A (beginning on p. 88) for more examples of problem statements.

Purpose of the Proposed Study

Begin this section by stating the purpose of your proposed study [e.g., The purpose of the proposed study is to . . . in order to . . .]. The purpose statement should (a) either end with an *in order to* conclusion so that you reader understands why the research is being proposed, or (b) have a second sentence explaining why the research is being proposed [what goal will the study

accomplish?]. For example, a purpose statement for a cross sectional survey might state: The purpose of this proposed study is to examine the educational aspirations and needs of a representative sample of female ex-offenders in order to generate new strategies to produce positive outcomes for women who are navigating through the reentry process, which may lead to breaking the cycle of recidivism. See Appendix A beginning on p. 88 for more examples of purpose statements.

Remember that a purpose statement is a direct response to the problem that you have carefully identified in the sections above and clearly articulated in the statement of the problem. The purpose statement attempts to capture the essence of what your proposed study will accomplish in one or two clear sentences

Research Questions

For quantitative research you may have one question or several questions. One way of organizing research questions is identify a primary research question followed by additional or sub-questions. The primary research question should flow logically from the problem statement and purpose statement and be very similar in wording although phrased as a question. If you do not have a primary research question, simply list all of your research questions. Sequence the questions by priority and by listing those questions first that best align to the problem and purpose statements. Follow testable quantitative research questions with an alternative hypothesis and the null hypotheses. Non-testable research questions will not have hypotheses. See Appendix B [p. 94] for a description of testable and non-testable questions and examples of hypotheses.

For qualitative research, develop a central research question that mirrors the statement of the problem and purpose statement, but is phrased as a question rather than a statement. Follow the central research question by any additional or corollary research questions. See Appendix A [starting on p. 88] for examples of several qualitative research questions.

Rationale, Relevance, and Significance of the Proposed Study

Organize this section with three sub-sections, rationale, relevance, and significance, which leave no doubt in the readers mind regarding which issue/topic is covered by each section. These three sections are very important and provide a reader such as a committee member all the necessary elements to make a judgment regarding the potential significance of your proposed study. Your proposed study should be relevant to your specialization at Capella. For example, if you are in the K-12 Studies in Education specialization, a proposed study regarding improving the retention rates for undergraduates in a public university does not fit with the specialization and will most likely not be approved by the specialization or faculty chair. The problem you are researching should be a problem faced by or readily recognized by other practitioners in your specialization. Similarly your proposed study should result in a dissertation that produces significant new knowledge that is useful to practitioners within your discipline. Your dissertation is also judged for significance by the contribution it will make to both practitioners and the scientific community. For this reason, dissertations should extend knowledge and advance theories.

Begin this section with the rationale or reason that the study is being conducted. The reason should logically flow from the problem and purpose statements. Explain how your study emerged from or is directly connected to the literature (research and theory). Remember, a

rationale is a justification for the need of your proposed study. If applicable, cite the literature calling for your proposed study.

The length of the rationale, relevance, and significance sections will vary depending on the number of cogent arguments you are making. Typically this section can include five to eight or more paragraphs is organized by three sub-sections, rationale, relevance, and significance, which leave no doubt in the readers mind regarding which issue/topic is covered by each section.

Rationale for the Proposed Study

The proposed study is needed because . . . Why is the study being proposed? What practice problem does this proposed study address, solve, or help to solve? Why is the research problem important? To whom is the research problem important? How has this proposed study emerged from the relevant research, theory and knowledge in your field or discipline? What researchers or content experts are calling for this research? Who has asked for this new knowledge or acknowledged a gap in the research literature exists [which researchers, authorities, content experts]? Will the new knowledge the study generates revise, extend or create new knowledge? For whom?

Relevance of the Proposed Study

What is the relevance to your specialization at Capella? Be sure to identify your specialization [e.g. postsecondary and adult education, professional studies, P-12 Leadership, etc.]. What is the potential value of your findings to practitioners in your specialization?

Significance of the Proposed Study

What is the value of the proposed study to the scientific community? Will your proposed study serve to begin to close a gap in knowledge? How will the new knowledge produced as a result of this proposed study contribute to, test, advance, refine, evaluate, or challenge existing

theory or research? Will your proposed study begin to bridge a debate or controversy in the literature? Will your completed study spur further research?

Nature of the Proposed Study

The nature of the study section provides your reader a brief overview of your proposed methodology (quantitative, qualitative or mixed methods research) and the specific research design (e.g., cross sectional correlational, quasi-experimental, observational, basic qualitative, case study, phenomenological, etc.). Begin this section by briefly introducing your reader to the research methodology and specific research design being proposed and that will be elaborated in Chapter 3 (e.g., A predictive correlational study is proposed in order to . . . ; a quasi-experimental design will be conducted in order to . . ., etc.). Provide a brief overview of the research design so your reader understands exactly what research design you are proposing.

Conclude this section by providing a brief rationale or justification for the methodology and research design you selected in light of the context for inquiry, using support from the literature. Draw your support for the appropriateness of your methodology and research design from the methodology literature and use in text citations from published research regarding your research problem. Detail and emphasize how your methodology and research design approach are appropriate and the best fit for the research problem, purpose, research question, and data being collected. The nature of the study section typically is three to five paragraphs in length.

Definition of Terms

In the definition of terms you define (a) technical terms any words or phrases that have unusual or a restricted meaning, (b) concepts, words, and phrases, which may have ambiguous

meaning (e.g., if a researcher is repeatedly using an ambiguous expression or term such as "engaging," engaging needs to be defined in this section), (c) for quantitative research, the variables need to be defined in this section as well as the relationships between the variables and the research question (see the detailed explanation below), and (d) for qualitative research define the constructs, characteristics, or conditions necessary to provide your reader conceptual clarity (see the detailed explanation below). The definition of terms section aids the reader in understanding how specific terms are being used. Although it makes sense to draw definitions from the literature, the researcher ultimately establishes the definition that best fits with the researcher's conceptualization of the term in light of the research problem, research design, etc.

Please note that in Chapter 1 you will provide conceptual definitions. In Chapter 3 for quantitative studies you will provide operational definitions through the operationalizing of your constructs and variables. For example if you conducting a study on teacher engagement you might define *teacher engagement* as defined in the example below; however, in Chapter 3 you might operationalize *teacher engagement* as a composite score calculated by adding a respondent's values to 20 items on a teacher engagement instrument.

List the terms alphabetically and organize by making each term a level 2 heading followed by the definition as in the example below.

Teacher Engagement

Teacher engagement is defined as exhibiting teaching behaviors that (a) demonstrate genuine care for students, (b) promote student learning, growth and development, (c) inspire students to deeper learning, (e) demand high quality student work products, and (f) develop students into becoming more inquisitive and inspired professionals (Haworth & Conrad, 1997).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are what the researcher takes for granted about any aspect of the study, problem, background, sample, instrument, underlying theory, methodology, ethical considerations, etc. Therefore within the assumptions discussion, identify all your assumptions regarding the proposed study. Write in the third person voice (e.g., An assumption underlying the study includes the potential honesty and candidness of the participants regarding . . .). Assumptions may include basic principles that are accepted as being true on the basis of logic or reason, without proof or verification. Describe your methodological assumptions. Describe your theoretical assumptions. Describe your topic-specific assumptions. Describe your assumptions regarding your proposed sample. Describe your assumptions regarding your the instrument(s) or qualitative protocols you will use. Identify potential ethical considerations and your assumptions regarding them.

Limitations

Limitations reflect weaknesses or potential weaknesses in the proposed study. Consider your instrument, your sample, your analysis or any other aspect of the proposed study in which there might be an inherent or potential weakness. Are there any threats to internal validity that are unavoidable or difficult to minimize? All studies have limitations and they are important to identify and discuss because they reflect the extent of critical thinking you have done.

Delimitations

Delimitations reflect how the scope of the proposed study has been narrowed or bounded. What will the proposed study not do and why not? Discuss delimitations as they relate to the

literature that will not be reviewed and included, the population that will not be included, and the methodological procedures that will not be included. Provide reasons for the delimitations.

Organization of the Remainder of the Proposed Study

The purpose of this section is to tell the reader what to expect in the remaining chapters. Think of this section as preparing the reader for what will come in the rest of the proposed study and the completed study. This section could be completed in a paragraph as follows:

Chapter 2 will (a) present the theoretical framework for the proposed study, (b) present, analyze, synthesize, and critique the appropriate literature related to the problem described in Chapter 1. Chapter 3 will describe the research methodology selected to respond to the problem and answer the research questions. Once the data collection and analysis is completed, chapter 4 will present an analysis of the data. The completed dissertation will conclude with chapter 5, which will include (a) a summary of the findings, (b) the conclusions drawn from the data presented in chapter 4, (c) the implications for practice, (d) the relationship of findings to the literature review, and (e) the recommendations for practice and future research.

CHAPTER 2: LITERATURE REVIEW

Introduction to the Literature Review

Prepare an introduction to your Chapter 2 that: (a) explains the purpose of your proposed study, (b) orients and informs your reader about what Chapter 2 will do, (c) introduces your theoretical framework, (d) introduces your literature review themes (topics), and (e) provides a brief rationale for each theme. Briefly describe the literature search process (libraries accessed, data bases searched, search terms, etc.) so a reader can understand and evaluate your process and criteria for achieving a thorough and appropriate review.

Theoretical Framework

The Capella *Dissertation Manual* (Capella, 2011, p.29) states "Every scholarly study has a theoretical base upon which it is built. Even the most practical of studies has a theoretical foundation. Sometimes it is difficult to identify the relevant theory or theories, but it is necessary to do so because research studies that lack a theoretical base are not dissertations." Describe the theoretical or conceptual framework that supports your proposed study. Organize your framework by components (label each component) and explain how the related research, theories and/or models within each component supports and forms a foundation or basis for your proposed research. Cluster related studies, other literature, theories, and models together and label (use headings) the components of your framework. When describing theories or models, identify and explain their underlying concepts, constructs, assumptions, and generalizations (theoretical expectations or testable hypotheses). If the theory or model you are presenting is based on or developed from other theories or models, briefly identify, describe and explain these

theories or models as well and the interrelationships among theory, models, research, and practice. Give your readers a clear picture of the framework [underlying foundation] for your proposed study, and how that interrelated components of the framework appropriately support your proposed study and how the framework has the efficacy to explain your findings. It is not enough, for example, to simply state that resiliency theory and the research literature that examined coping skills supports the proposed study. Rather, you must provide the concepts, assumptions, and generalizations/theoretical expectations of resiliency theory that apply to the problem and explain how the theory and the findings of coping skills literature form an interrelated framework to support the proposed study. Demonstrate how the interrelationships among the research literature findings and the concepts, assumptions, and generalizations or theoretical expectations of theories or models all fit together to form a framework that can potentially explain the phenomenon under investigation.

For quantitative research keep in mind that the constructs and variables measured by your instrument should have a theoretical basis and that theoretical basis should be explained in this section. For qualitative research studies that do not measure constructs include theories that potentially explain the phenomenon you are proposing to investigate and that might explain the findings your think your proposed study might produce. Conclude this section by explaining how you will test, refine, extend, advance, or challenge the theory, model, and/or body of knowledge with your findings. Testing is typically done by confirming/disconfirming the theoretical assumptions or expectations with our findings.

Here is an example of how a framework was developed.

Espelage, Bosworth, and Simon (2000) conducted a correlational study that examined the relationship between the self-reported continual bullying of middle-school adolescents

and the adolescents' family and environmental factors. The researchers' presented a framework for the study that included two large bodies of research findings related to (a) aggression in children and adolescents in general with bullying being a major subset, and (b) contextual factors, which included both family factors (family management, family conflict, family bonding/cohesion, substance abuse, family violence, parental supervision, hostile discipline techniques, and poor role modeling of problem solving skills) and environmental factors (neighborhood disorganization, economic distress, safety, and association with drug using peers).

The Espelage et al. study was designed to attempt to confirm other previous research that examined the relationships between bullying and contextual factors and to see if similar associations were found with a large sample (*N*=558) of Midwestern middle-school children. The theoretical basis for bullying and the contextual factors for nearly all the previous studies and for Espelage et al. study was drawn from Bandura's (1973, 1986) social learning theory. The vast majority of studies previously conducted provided ample evidence that bullying can be explained as learned behavior. Thus, based on the theoretical expectations of social learning theory, the researchers were able to conceptualize and examine the relationship of the independent variables (parental behaviors and peer influence and other environmental factors) and bullying.

Incidentally the study found that parental physical discipline, time spent without adult supervision, negative peer influences, and neighborhood safety concerns were positively associated with bullying behavior.

The findings suggested that school counselors' prevention and intervention efforts need to focus on the larger social contextual factors for bullying adolescents. This last statement

is important in understanding the scholar-practitioner model, because the statement comes full circle to the practitioner's practice problem that drove the need for the study; that is, the need to have more knowledge about bullying so that better prevention and intervention strategies might be developed.

Note that for quantitative research there should be a clear connection between the constructs being measured by the instruments and both the theoretical framework and your literature review. If you create your own instrument, you should also create a table of specifications [detailed blueprint] that maps each item within the instrument to the construct being measured, to the content domain from which that item came, and to the literature [research and theory] that supports the item. Initial evidence of the instrument's validity can be amassed through a panel of content experts review and evaluation of your instrument and the table of specifications.

Here is another example of how one might organize and discuss a theoretical framework for a proposed quantitative study that explores decision making by adolescent bullies in selecting their victims. The components of the theoretical framework for this hypothetical study include: (a) social learning theory, (b) rational choice theory, and (c) general strain theory, and the research findings associated with (d) victimization, (e) lack of adult awareness and systematic supports to prevent school bullying, and (f) bystander behavior. The instruments to be used in this example must measure those aspects of decision making that relate to the primary constructs of the theories and bodies of research.

Note that the example above blends three theories. A word of caution is in order here. It is acceptable to blend theories or models when they can be authentically integrated and when the purpose of your research is best served by their integration. If you intend to blend theories or

models, carefully describe all the relevant theories or models in terms of their concepts, assumptions and generalizations (expectations) and cite well known authorities associated with the theories or models in your in text citations. Exercise great care in synthesizing and integrating the different theories or models. You must explain how the concepts, assumptions and generalizations can work together. You must justify and defend the logic and validity of integrating theories or models.

Here is an example of a theoretical framework for a qualitative study. Please note that this study is unique in that its primary objective was to attempt to confirm a newly developed model. For your dissertation you will attempt to confirm/disconfirm some theoretical assumptions/expectations but it is highly unlikely you will be the first researcher to test the theory or model as was the case in this example. Connolly (2004) conducted a qualitative study designed to discover and understand the early life experiences of men who have sexually offended children in order to determine whether or not Ward and Siegert's (2002) pathway's model can explain common patterns of early behavior that form pathways leading to the sexual abuse of children. Ward and Siegert's work has aimed to develop a comprehensive etiological theory of sexual offending based on the following theoretical explanations, models, and concepts, which reinforce the significance of vulnerability to sexually offend (a) Finkelhor's (1984) preconditional model, (b) Hall and Hirschman's (1992) quadripartite model, (c) Marshall and Barbaree's (1990) integrated theory, and Gagon's (1990) concept of sexual scripts. Connolly wrote an introduction to her journal article that presented a theoretical framework that included all of the theories and models listed above and that was also supported with two research components (a) a body of research on the histories of men who sexual exploit children,

and (b) a body of research on the sexual exploitation in general. Incidentally, the results of the study, although tentative, reflected that:

> Developmental trajectories or individual pathways may be forged by building blocks of behaviours and experience which have influenced patterns of adult sexual offending. The preliminary findings also suggest that the Pathways Model offers potential with respect to work with men who sexually offend against children. (p. 39)

In other words, Connolly confirmed the assumptions of the pathways model. Of course, more confirmatory research was needed to develop a base of support.

Conclude the theoretical framework section by explaining how your study and its potential findings will test, refine, advance, extend or challenge a theory or a model or a body of knowledge. For example, in the Espelage, Bosworth, and Simon (2000) study example above, their findings continued to confirm that bullying is a learned behavior. For testing theory, as in the blended theory example above, a learner-researcher might state that the three theories and bodies of research can be tested with the appropriate instrumentation to explain the decision making processes middle school bullies typically use in selecting victims. Thus, the learner-researcher might conclude the theoretical framework section by stating: As part of the analysis and interpretation of the collected data, the learner will examine and explain the findings in light of the integrated concepts, assumptions, and generalizations/theoretical expectations of (a) social learning theory, (b) rational choice theory, and (c) general strain theory, and the research findings associated with (d) victimization, (e) lack of adult awareness and systematic supports to prevent school bullying, and (f) bystander behavior. Remember, your interpretation will explain whether or not the theoretical assumptions or expectations were confirmed by your findings.

Review of Research Literature and Methodological Literature

Review of Research Regarding [the Topic/Research Problem *<replace[the Topic/Research Problem] with your specific topic*

Introduce this section by explaining what will be included and, if applicable, how the review will be organized [typically organized by topics, which we call themes]. Thus the review is thematically organized. In presenting the review of research on the topic, discuss the line of investigation [if applicable] of previous studies on the topic. Discuss and analyze studies (a) that lay the foundation for your proposed study, (b) that support the main topic/problem or related sub-problems, (c) that elucidate the research problem, and (d) and that justify the need for the study. See the proposal guide [literature review] for more details. If there has been a considerable amount of research related to the topic or problem, organize the review by three to five major themes (topics) relevant to your topic/problem. Begin the each theme with an introduction that briefly tells your reader what will be presented in the review within that specific theme. Begin each theme with an introduction of the theme, which provides your reader with a context of understanding the theme's purpose and relationship to the proposed study's main problem/topic. Summarize each study in relationship to the theme and, if applicable, to the research problem or your research intentions. If the literature is available, always show both sides of an issue, problem, model, etc. Each theme should serve to meet one or more of the objectives listed below on pp. 32-33. Develop summary paragraphs for each theme that synthesize the literature, draw conclusions, and emphasize the supportive relationship between the theme and your proposed study, how the theme served to lay the foundation for the study, or how the theme elucidated the research problem or/and how the theme helps justify the need for the proposed study. These conclusions will strengthen Chapter 2 as a coherent whole and as a

persuasive chapter. Remember, your goal is to persuade your reader that your topic is significant and your proposed study is needed.

Review of Methodological Issues

In this section consider and discuss the various designs that have been used to research your topic. What studies best support your choice of the proposed research design? What methodological issues arose in your review? For example has the topic/problem been only researched with one kind of research design when others designs could provide helpful information? What studies support your choice of design and instrument [if quantitative]? What studies support your choice of research design? Discuss the fit or alignment among the purpose of your proposed study, the research question, and the other research designs you considered. Describe why your proposed research design fits best with the purpose of your research and the research question. Occasionally a learner might justify viability based on the basis that other designs might not be possible or practical.

For proposing a quantitative study discuss studies the support and justify your choice of instrument(s), constructs, and variables. For proposing a qualitative study discuss studies that support and justify your specific choice of research design. For example, why is a basic qualitative study the best fit? Why are phenomenological or grounded theory designs not as good a fit? Use the literature for support of your design as the most viable choice. Identify the philosophical foundation for you research design and how that foundation or tradition fits with the problem and you choice of research design.

Synthesis of Research Findings

In this section synthesize the findings to develop a holistic understanding of the research problem/topic and present the larger themes/issues, inconsistencies, or relevant patterns based on

the research studies you presented. Your synthesis allows your reader to understand what your review of the literature led you to conclude about your own question and researchable problem. Justify your proposed study and your choice of research design. Summarize the main points of Chapter Two, showing both the strengths and the weaknesses of the literature reviewed and your project's relationship with the previous research on the topic, both in content (research findings) and methods (methodology). This section can be a relatively brief section as long as presents a clear synthesis.

Critique of Previous Research

In this section briefly summarize the quality of the research you have reviewed. Identify the strengths and weakness in terms of methodological soundness, credibility, validity and efficacy for generalizations [for quantitative research] and transferability [for qualitative research]. Were all the studies methodological sound? Discuss any studies that seemed weak or limited. What is the relationship between those limitations and the study you are proposing? Consider and evaluate the rigor of designs, sampling errors, appropriateness of sample sizes relative to generalizations, the validity of research instruments, the appropriateness of statistical tests or procedures, and any other issues related to the quality of the studies you reviewed. This section does not need to be lengthy. Rather it demonstrates your critical review of the quality of the studies you presented in your literature review.

If applicable, in this section you can also discuss any debates, controversies, or criticism in the literature related to the theories or models and related research you presented in the theoretical framework section above. In light of the studies you reviewed, present opposing viewpoints, disconfirming evidence, or counterarguments those studies or any synthesis you provided from those studies. If applicable, incorporate debates or opposing views within the

theoretical framework or literature review section if you like and briefly summarize here and explain why you adopted one viewpoint on a debate or controversy over others. Conclude this section with an argument of how your proposed study will advance the literature and what characteristics make it rigorous and appropriate.

Chapter 2 Summary

Briefly synthesize a summary from the literature presented that summarizes the conclusions you have drawn from your review and makes a compelling argument for the need for your proposed study. Summarize your theoretical framework and state how you will advance [test, refine, extend or challenge] theory with your potential findings. Emphasize how you have documented and justified the need for the research. Review the list of 10 objectives below and determine which items can be accentuated in the conclusion.

Important Considerations for Self-Assessing Chapter 2: The Literature Review

Published research studies and other reports of research, including dissertations, include reviews of the literature related to research topic/problem. In a peer reviewed journal article that presents a study the literature review may be in section called the *Literature Review* or *Review of the Literature* but is also likely to appear in the *Introduction* section. In both your proposal and published dissertation the *Literature Review* will be your second chapter. Unlike chapters one and three of your proposal, which are typically written in the present or future tense, and later revised to past tense for the publishable dissertation, the *Literature Review* is always written in the past tense. The *APA Publication Manual* (6th Edition) states that as scholarly writers we "use the past tense to express an action or condition that occurred at a specific time in the past, as

when discussing another researcher's work and when reporting your results" (2010, p. 68).

A thorough literature review should achieve the following objectives:

1. Presents the theoretical framework that supports your proposed study.
2. Explains how theory will be advanced [tested, refined, extended, or challenged] with your potential findings.
3. Identifies and discuss gaps, debates or controversies related to the theoretical framework and related research findings.
4. Places your topic/problem in its historical context to include, if applicable, a description of the line of research that preceded your investigation.
5. Identifies, presents, critically analyses, evaluates, and synthesizes studies that (a) help to justify your selection and significance of the topic, and that help to form you research problem and research question; (b) are similar to the one you are proposing, provide such studies exist; (c) related to the main topic, research problem, and/or themes that support your study; and (d) related to the theoretical framework.
6. Assists in the selection and conceptualization of research design, instruments, and methodological procedures (analysis and interpretation of collected data).
7. Lays the foundation for the study, elucidates the research problem, and justifies the need for research.
8. Evaluates potential research designs and demonstrates why your choice of research design is appropriate.
9. Achieves the quality of a stand-alone synthesized new coherent whole that gives your reader a state-of-the-art understanding of your research question/topic/problem.

10. Achieves the goal of being exhaustive; that is it should reach the saturation point of finding no new information regarding the topic.

The objectives above reflect the purpose of Chapter 2 of your proposal. Rossman (1995) summarized the importance of achieving the objectives of a literature review:

> A *literature review* that is logically organized, presents a theoretical foundation, places your topic in an historical context, presents a critical examination of the content of previous studies, presents a critical examination of the research designs, methodologies and theoretical support for related studies, will strengthen your claim that your topic is significant and worthy of a research study at the master's or doctoral level. It will help you to justify the time and effort that you will be spending in its completion. A carefully thought out and well designed chapter two will also avoid a "so what, who cares?" response from your chair and your committee. (p. 97)

Remember, a *literature review* summarizes, interprets, and evaluates current literature (to include mostly research studies and other published material) in order to establish the most current and complete knowledge on the research topic and for each of the themes. The purpose of the literature review is to relate your proposed research to the existing knowledge [research] and theory and to demonstrate the need for your research. A *literature review* should reach the quality of a stand-alone synthesized new coherent whole that gives your reader a state-of-the-art understanding of your research question/topic/problem. You want your reader to be convinced that your proposal must be approved and your study carried out.

A *literature review* that achieves the quality of a stand-alone synthesized new coherent whole that gives your reader a state-of-the-art understanding of your research

question/topic/problem is considered an exhaustive literature review. The review is exhaustive when it reaches the saturation point of finding no new information regarding the topic.

There are several stages of the *literature review.* The first stage is typically the preliminary review that helps you locate a research topic/problem. You may continue to review the literature in order to demonstrate and document that the topic/problem and need for your proposed research has emerged from the literature. The next stage or phase of review includes beginning to develop your draft Chapter 2. Later stages of review will be devoted to achieving an exhaustive *literature review* and staying abreast of the topic/problem. While you are collecting and analyzing your data, it is possible that new literature emerges that is relevant to your study. Include this new material in your published dissertation. There is also the possibility that your findings do not support your hypotheses or that your findings do not align with the theoretical expectations and supporting literature. If you cannot explain your findings, you may need to return to the literature in an attempt to find a possible explanation for your findings or to find other theories or models that can better explain your findings.

CHAPTER 3. METHODOLOGY

Introduction to Chapter 3

Briefly introduce the chapter. Describe the chapter's purpose, how it fits into the overall dissertation, and how the chapter is organized.

Purpose of the Proposed Study

Repeat your one or two sentence purpose statement from Chapter 1. Identifying the proposed study's purpose and research question(s), and hypotheses if applicable, in the next sub-section provide your reader with the necessary context for understanding this Chapter.

Research Questions and Hypotheses

List your research questions here and hypotheses if applicable. Here are two examples: one for quantitative causal-comparative research, and three for a qualitative research.

Research question 1. Is there a significant difference between the number of middle school bullying incidents over a six month period for a middle school that participated in the *Change the School Climate* program and a similar middle school that did not participate in the *Change the School Climate* program?

H_1. There is a significant difference between the number of middle school bullying incidents over a six month period for a middle school that recently participated in the *Change the School Climate* program and a similar middle school that did not participate in the *Change the School Climate* program.

H_0. There is no significant difference between the number of middle school bullying incidents over a six month period for a middle school that recently participated in the *Change the School Climate* program and a similar middle school that did not participate in the *Change the School Climate* program.

Central research question. What role does intuition play in veteran high school teachers' decision-making regarding ethical dilemmas dealing with honesty, integrity, and proper professional behavior? [Phenomenological Research]

Central research question. How does the public school experience differ for ESL students than non-ESL students in inner-city elementary schools? [Basic qualitative research]

Central research question. What is the impact on the culture of a school when it does not attain Annual Yearly Progress (AYP) as required by the No Child Left Behind Act (NCLB)? [A case study]

Sub-question 1. What are the new activities that have been adopted by the schools in preparation for future high stakes tests?

Sub-question 2. What messages are communicated to students and teachers that increase or decrease the levels of anxiety around testing?

Sub-question 3. What are the practical and emotional consequences of the testing results for students, teachers, principals, and schools?

Research Design

Describe and justify the proposed methodology [i.e., quantitative, qualitative, or mixed-methods] and the specific research design [e.g., quasi-experimental, predictive correlational, basic qualitative, case study, phenomenological, grounded theory, etc.] you are proposing in response to the problem. The nature of the problem should determine how you frame the research question and thus drive your choice of the research design. Discuss the alignment among the problem, purpose, research question(s) and choice of research design. This section should identify and justify the research model or guide you are following in developing the

research design, data collection, and analysis. After identifying your specific research design justify it and support it with literature. Why is it the best fit for the researchable problem?

Describe the guide or model you are following to develop your research design. By using a guide or model for your research design development, you are demonstrating to your reader that you are not *making up* the research design but rather you are following an expert's guide or model for developing the research design. For example, if you are planning on conducting a theory-based program evaluation, you might use a framework developed by Bickman (1990) or D'Agostino (2001). If you are proposing a quasi-experimental design, you might cite Gall, Borg and Gall (2006) as your guide.

If you follow a specific model or version within your research design, identify the model or version within this section. For example, in a causal-comparative study you might be guided by a specialized set of statistical operations or technique (e.g., path analysis or structural equation modeling).

Often in qualitative studies, the research design follows a specific model from an expert in that design. For example, if you are planning on conducting an evaluative case study, you might use the methodological model presented by Yin (2009), Guba and Lincoln (1994) or Patton (1990) or Stake (1995). If you are planning a phenomenological design, you might follow a model developed by a phenomenological research expert such as Colaizzi (1978), Giorgi (1997), Giorgi and Giorgi (2003), Moustakas (1994), or Van Manen (1990).

If you are not conducting a phenomenological study but rather only seeking to only discover and understand lived experiences and how your participants make sense of their experience and therefore proposing a basic qualitative study you might use Merriam (1998, 2009) as your guide.

If you plan to use a different guide or model for the data analysis, state the guide or model in this section. For example, it is not uncommon for a researcher using a basic interpretive qualitative research design to borrow the *constant comparative* data analysis method adopted from the grounded theory research design. Thus a learner-researcher might cite as their guide for the data analysis the original developers, Glaser and Strauss (1967, 1999), or Glaser (1992, 1998) or a learner-researcher might cite a more current text that describes the *constant comparative* data analysis method such as Corbin and Strauss (2008) or Charmaz (2006).

Develop your research design by following an expert's guide or model that has been published by one or more of the quantitative or qualitative research/methods experts for your selected research design. In this section create a conceptual argument stating how your selected design is the best fit and follow your guide or model in completing this chapter.

Target Population, Sampling Method and Related Procedures

Target Population

First identify the population at large from which your sample will be drawn. Think of the population as "the group to whom you want to apply your results" (Mertens, 2005, p. 4). Identify the characteristics that make the target population unique from other populations. Here are some examples all social workers in the U.S.A, all child protection administrators in the state of Texas, all Latina women living in the U.S.A who have experienced domestic violence, all school counselors in a state school system, all police officers in a large metropolitan area who on suspension during the past five years. Notice how the target population can be very large or more narrowly defined. For quantitative proposals, identify or estimate the target population size.

Sampling Method

Identify your sampling method [use terminology from research methods text books]. Here are some quantitative examples

- probability sampling that involves proportional stratified sampling to ensure a mix of teachers ranging from new to the field to the most seasoned veterans;
- a systematic probability sampling to ensure all college freshmen who have experienced stress and depression in the past year have an opportunity to volunteer;
- non-probability sampling that is convenient and purposive, that is, sending out a survey invitation to all high school counselors in state of North Carolina; and
- non-probability sampling that is convenient and purposive, that is, using volunteers from two local women's shelters to participate in an experiment where one group will receive an new intervention and the other group will not.

Describe how your sampling method will be conducted. For quantitative studies [excluding experiments] address your strategy for obtaining a 95-99% confidence level [see Appendix C, p. 96]. Provide a rationale [justification] for your choice of sampling method [why will this method fit best with your research problem, purpose, and primary research question].

If you are conducting an experiment, set your sample size by conducting a priori power analyses [see Mertens (2005, pp. 329-332) or use a search engine such as Google to find a free power analysis tool that will calculate sample size needed based on the desired statistical power level, which is typically .80. For example, a brief introduction to power analysis is found at Getting the Sample Size Right: A Brief Introduction to Power Analysis. Also, G*Power is a convenient general power analysis program that performs statistical power analyses for the most common statistical tests in behavioral research. A G*Power tutorial is available at: http://www.psycho.uni-duesseldorf.de/aap/projects/gpower/gpower-tutorial.pdf

Qualitative sampling methods are typically both ones of convenience and are purposive. The sampling method is convenient if the sample is located within a close driving distance. Convenience means in essence that the sample is located in an area that is convenient for you to reach them. The sample is purposive because the participants will have experienced the same phenomenon. Identify the purposive criteria [e.g., selection of (a) women, (b) who are Hispanic, (c) who are between the ages of 18 and 35, (d) who have children, (e) who have dropped out of college in the past year; and (f) are willing to participate]. Provide a rationale [justification] for your choice of sampling method [why will this method fit best with your research problem, purpose, and primary research question or other significant criteria?]

Note that a convenience sample is simply one that is available and the researcher can access with little effort. It may also be selected simply because the researcher knows people in the setting and can easily gain permission for the study. Many learners use convenience sampling. If so, they need to provide a rationale for why the setting is appropriate for the study. If the setting is one they work in, then they will need to identify any potential conflict of interests, ethical issues, and biases they have that may influence the study.

In contrast to sampling in quantitative studies, the sample for a qualitative study is usually selected for a particular purpose. There are many purposes for which a particular setting or group of participants may be selected. The setting may represent an extreme case of the topic and problem for study and make the identification of critical elements easier. The group of participants might be selected because they represent typical cases and the study might provide greater value because of that; or, a setting may be chosen because of a recent event that provides a rare opportunity to study a particular issue (see Lodico, Spaulding, & Voegtle, pp. 134-136.)

Sample Size

Identify and justify your sample size. Describe how you arrived at a particular sample size. Support your proposed size with the literature but avoid setting a bare-bones minimum as are often provided in "*rules of thumb*" (Mertens, 2005, p. 327). Those rules of thumb provide the minimum acceptable number to meet a minimal acceptable threshold of statistical power or minimally acceptable number for a qualitative study. A rule of thumb number will typically not provide a 95% confidence level or an ideal statistical power of .80 or ensure an effect size of .5.

Setting

Describe the setting for conducting the proposed study. Describe the location of the participants and also the details regarding where the participants will complete the instrumentation or treatment or in a qualitative study where the participants will be located during the interviews or observation.

Recruitment

Describe how you will carry out your sampling method. How will participants be recruited? Will you work through an agency such as a school administration? Will you advertise? Keep in mind that our IRB will require an equitable and transparent recruitment process. Describe the process that allows for volunteering or not volunteering?

Instrumentation (for Quantitative Research)

Describe your instrument(s) and what you are attempting to measure. What construct or constructs does the instrument measure? Discuss your instrument(s) in light of the latent and manifest (operationalized) variables being measured, the underlying constructs, the instrument's reliability, and the instrument's validity. Summarize the instrument's psychometric properties and evidence of validity and reliability.

Keep in mind that it is more desirable to use instruments for which ample evidence of validity and reliability has been amassed. Before attempting to develop an instrument, first review Buros Center for Testing or ETS TestLink to see if an existing instrument fits with your proposed study. Most self made instruments have limited rigor unless the learner has had a course or training in how to create them.

If it is necessary to create your own instrument, you should also create a table of specifications [detailed blueprint] that maps each item within the instrument to (a) the type of item [e.g., Likert, forced choice, etc.], (b) the construct being measured, (c) the content domain from which that item came, and (d) the literature [research and theory] that supports the item. Initial evidence of the instrument's validity can be amassed through a panel of three to five content experts who review and evaluate your instrument and the table of specifications. The panel can review your instructions and items for clarity but more importantly arrive at a judgment regarding the instrument's construct, content, face, and consequential validity. This first step in amassing initial evidence of validity can be reported as a field test and as such done prior to IRB approval. It is also recommended that for new instruments that have been reviewed and approved by a panel of experts that a pilot test be conducted, which requires IRB approval.

Data Collection

The purpose of the *Data Collection* section is to describe various procedures for collecting data. The procedures will vary by methodology. For example, a quantitative study might collect data via survey instruments, tests, observation forms or from existing records. A qualitative study might collect data through interviews, observations, focus groups, written narratives, or artifacts. List your semi-structured interview questions or interview protocol guide.

Those questions can be listed in this section or placed in an Appendix, as some mentors and committee members prefer. List your semi-structured interview questions or interview protocol guide here or refer to them as listed in an Appendix, as some mentors and committee members prefer.

For some qualitative research such as ethnographic studies or case studies some combination of qualitative data collection procedures will be used. Mixed methods studies use a combination of quantitative and qualitative data collection procedures.

The important thing to keep in mind is that this section as well as the other sections in this Chapter is that the procedures are to be clear and precise – written like a recipe or a detailed blueprint that another researcher could replicate. Including enough detail to make replication possible is the gold standard for determining if enough detail and clarity is present.

This section concludes with a description of how the collected data will be prepared for analysis. For example, survey data might be manually transferred into a spreadsheet or a SPSS/PASW file. Researchers using an Internet service such as surveymonkey.com or formsite.com might obtain a Microsoft Access or Excel spreadsheet. Whether the data are manually entered or transferred from an existing data file, the data might need to be recoded or translated. For example some instruments contain items that require reverse scoring. An internet service might provide a label in a spreadsheet that needs a value associated with it. Describe all data handling and data transformations.

Similarly, for a qualitative study it is important to detail the procedures of recording, videotaping, observing, collecting artifacts, and then the transcribing or other procedures for preparing the data for analysis. A careful consideration is important in planning the collection and preparation of data. Will the researcher transcribe the data? If so, has the researcher

planned for sufficient time? Will the researcher hire a professional transcriptionist or a nonprofessional helper such as a student? While a professional transcriptionist will have a coding system for pauses and emotions, a student most likely would not and therefore the researcher would need to develop a coding system for the student or the researcher to use.

Field Testing/Pilot Testing

Differences between Field Tests and Pilot Studies

Instrument credibility: field test (expert review). A Field Test (Expert Review) is recommended to assess the appropriateness of interview questions, questionnaires, or other researcher-created instruments and protocols. Experts in the field review the questions and offer feedback to the researcher about whether the questions are appropriate for the population, whether they will make sense to the population, and whether they represent the perspectives of the field. Experts in the field typically include content experts who have published regarding the construct(s) that will be measured, faculty, practitioners, and/or respected researchers all of whom are familiar with the construct(s). A field test never includes people who meet the criteria for inclusion in the study, and expert reviewers are not asked to complete the instrument but rather to provide feedback on the instrument. A field test may therefore be conducted prior to IRB approval.

Instrument validity/reliability: pilot study. A pilot study includes actual participants from the population upon which the study will be based to assess the validity of instruments/tools. Pilot studies are typically recommended when a researcher has created an instrument that is intended to measure something, or when a researcher has modified a valid instrument to the point that new validity information is necessary. Pilot studies might also be

used to establish whether an intervention or process is valid prior to engaging in a larger study. Often, the intent of a pilot study is to determine whether the instrument measures the construct it is intended to measure. Sometimes, the validation of a new instrument using a pilot study is in and of itself a formal research study; other times, a pilot study would be conducted with a small sample prior to implementing a larger study. Because pilot studies use participants and any study involving human participants or their records requires IRB approval, the pilot study must be approved by the IRB prior to implementation. Preferably, researchers should prepare only one IRB application covering both the pilot study and the actual research study. If a pilot study results in changes to the instrument, the IRB may need to review those changes prior to the instrument's use in a formal study.

Discussion

You may or may not use field testing or pilot testing. If you do not use a field test or pilot test, that is fine; however, briefly state in this section the reason you will not need to conduct a field test or pilot test. If you are proposing a field test or a pilot test, describe how it will be carried out. If you are not using field testing or pilot testing, provide your rationale and why it would not make sense to conduct a pilot test.

Operationalization of Variables

Identify the construct(s) that will be measured and identify the key study variables. Constructs are conceptualizations that exist theoretically but are not directly observable. Tacit intelligence is a good example. Tacit intelligence cannot be directly measured or observed. Researchers might infer the existence of tacit intelligence from specific behaviors or they might use an index or other instrumentation to construct a measure of the construct, tacit intelligence.

Frequently constructs in research are developed [constructed] for describing relationships among phenomena. A variable is quantitative expression of a construct that can vary quantity or quality in observed phenomenon (Gall, Borg, & Gall, 2006). Thus a variable is a characteristic or finding that can vary and thus can be expressed in values that can vary. The opposite of a variable is a constant. A condition that does not change is a constant and not a variable.

If applicable, describe your dependent and independent variables. Describe how the variables will be operationalized. In order to operationalize variables you must (a) define and describe the variable, (b) determine how data will be collected to create each variable [be sure to address the validity of the data collection instrument in the *Instrument(also referred to as "instrumentation"* section], (c) determine how values will be assigned to each variable, and (d) determine and identify the level of measurement for each variable. Therefore, for any instrument, describe how the data will be converted to a variable. As illustrations, consider answers to these kinds of questions:

- Will an instrument composite score be used?
- Will an instrument subsection composite score be used?
- How will the composite score be calculated?
- What level of measurement is that composite score?

The level of measurement is important because statistical analyses and tests have assumptions regarding the appropriate level of measurement. For example, if you are proposing a predictive correlational design, and your dependent variable is a nominal dichotomous variable such as "attended/not attended" or "persisted/dropped out" the level of measurement must be considered in selecting the correct statistical test. Since a key assumption of multiple linear regression is that the dependent variable must be an interval or ratio level of measurement, another statistical

analysis such as logistic regression will need to be use when the dependent variable is nominal. If you are proposing a predictive correlational design and your single dependent variable is a composite score that is conceptualized as an interval level of measurement, then you might propose multiple linear regression analysis. The assumption underlying logistic regression is that the dependent variable must be a nominal level of measurement. The assumption underlying multiple linear regression is that the dependent variable must be a interval or ratio level of measurement.

Data Analysis Procedures

The *data analysis procedures* section is an important component of Chapter 3. It should provide sufficient detail so that it takes a reader step by step through the process of how each research question will be answered, and when applicable, how each null hypothesis will be tested. The section will be developed differently depending on whether the learner is proposing a quantitative, qualitative or mixed methods study. As with the other sections of Chapter 3, the *data analysis procedures* should be written as a *detailed blueprint* showing each step the learner intends to take (for the proposal) or actually took (for the completed dissertation) to analyze the data. The *data analysis procedures* section not only serves as a detailed road map for analysis but also provides clear direction to other researchers who wish to replicate the study. A well written and detailed *data analysis procedures* section will demonstrate to a committee member, School or Specialization reviewer, or IRB reviewer that the research questions can be answered or the null hypotheses tested.

Data Analysis Procedures for Quantitative Research

The data analysis procedures need to demonstrate how the data analysis plan of action provides data directly responsive to the research question(s) and purpose of the study. The best way to ensure this direct responsiveness is to organize this section by the research questions and hypotheses and take a reader or reviewer step by step through the data analysis procedures [to include identifying the variables, their level of measurement, the statistical technique, hypothesis testing, and significance levels] and explaining how each research question will be answered.

Typically there will be data handling or transformation steps done prior to or as a part of the analysis. Discuss any data preparation or modification involving coding and/or recoding values assigned to variables necessary prior to conducting a statistical test. Include procedures such as:

- Describe any data preparation or modification involving coding and/or recoding values assigned to variables.
- Discuss the statistical techniques in terms of what these techniques or tests will accomplish and the rationale for selecting them.
- Identify not only what specific statistics will be used, but also select and identify the level of significance for all significance tests.

There are *inherent assumptions* that underlie each statistical technique. Therefore your levels of measurement must match the underlying assumptions of the statistical techniques being used. Another assumption, for example, made by parametric inferential statistics is that distributions will be normal. Therefore, as a preliminary procedure, both descriptive statistics and summaries (diagrams, histograms, scattergrams, skewness, kurtosis, etc.) should be used. For explaining statistical procedures use in text citations from experts. This section should detail exactly how the research questions will be answered.

- Review your data analysis procedures with a skeptical eye: does it provide enough detail that your reader could follow it like a recipe? For example, if you plan to use Excel or a software statistical program such as SPSS/PASW, SAS, or Minitab, what version?
- Ask yourself: What features or special elements or added module will you make use of, if any? Leave no gaps in your description. The goal here is to ensure that a reader does not have to make assumptions or guess at what the procedures will be (proposal) or were (final dissertation).

Data Analysis Procedures for Qualitative Research

Describe the data analysis plan for your study. The purpose of this section is to demonstrate how your data analysis plan of action provides data directly responsive to the research question(s) and purpose of the study. Therefore it is imperative that step by step procedures are identified. Describe any data preparation (How will the data be prepared for analysis?). Who will transcribe the interviews? When will the interviews be transcribed? Describe how you will code the transcribed interviews. What is your specific coding process? What guide are you following for coding? For example, grounded theory and often basic research designs use the constant comparative data analysis technique, which requires open, selective and axial coding procedures. Phenomenological research, on the other hand, with its goal of constructing meaning units will use another coding process. It is always best to follow an appropriate and systematic data analysis method designed for phenomenological research, e.g. Colaizzi (1978), Giorgi and Giori (2003), Moustakas (1994), van Manen (1990) or an appropriate adaptation of an established, credible process.

Studies that collect data from multiple sources [e.g., interviews, observations, researcher field notes, journals, other artifacts] might require different coding and analysis techniques. The products of analysis and interpretation for theses multiple data sets must be then be treated as a new *data set*, and analyzed in turn for the universal or essential themes. Typically *thematic analysis* is used in this second round of analysis.

Discuss the number of levels of analysis and what each level is intended to accomplish. For example, in a grounded theory analysis or basic qualitative analysis you might use a constant comparative method, which you employ immediately and that ultimately will allow you to produce categories, themes, properties and working or tentative hypotheses. The first level will include open coding. The next level will include axial coding. The next level will include selective coding. The next level will produce themes and working or tentative hypotheses. Describe how and when inductive reasoning will be employed.

Two techniques that are effective with the data analysis process are *memoing* and *concept mapping*. *Memoing* is the process of writing memos or notes. It is appropriate at several stages of data processing to capture code meaning, theoretical ideas, preliminary conclusions, and hunches, flashed of insight or other thoughts that will be useful during analysis. *Concept mapping* uses diagrams to explore relationships in the data graphically. If you plan to use these techniques, summarize how you will use them in this section.

Some data analysis techniques are highly specialized. Will you use a specialized process such as ethnographic content analysis, narrative analysis or analytic induction? In a phenomenological data analysis how will you uncover *essences*? Discuss your phenomenological analysis in terms of Epoché and bracketing. In following a credible methodological guide or model, such as Moustakas (1994) for example, describe the key

procedures [imaginative variation, first- and second-order knowledge, and/or other techniques for analyzing experience and arriving at structural descriptions of an experience and the underlying precipitating factors.].

Will you do heuristic inquiry – a more personalized inquiry? In an ethnographic study you might begin your planning for data analysis by determining the broad categories and sub-categories used to guide your analysis, and describe how you will conduct a socio-cultural interpretation and reconstruction of your participants' symbolic meanings and patterns of social interactions. Will you create a typology or cognitive map? For any form of qualitative research describe how and when will you use inductive reasoning. Will you produce working or tentative hypotheses? As with planning any kind of data analysis method, it is best to follow a model from a master in your selected data analysis technique.

For explaining data analyses procedures use in text citations from experts. This section should detail exactly how the research questions will be answered. Review your data analysis procedures with a skeptical eye: does it provide enough detail that your reader could follow it like a recipe? For example, if you plan to qualitative software such as Atlas.ti, NVivo, HyperRESEARCH, etc., what version? Try to leave no gaps so that a reader must make assumptions or guess at what you will do.

Limitations of the Research Design

Briefly discuss the limitations of your research design, sampling technique, sample size, instrumentation, etc.

Internal Validity (for Quantitative Research)

Discuss your strategies for ensuring the internal validity of your proposed research design; in other words, the internal validity of your study. Internal validity in a quantitative study is the extent to which a research design and its data results allow the researcher to draw accurate conclusions about the cause and effect and other relationships in the study. Internal validity is important to determine whether the results of a study will determine a comparable accurate response. In an experimental study, internal validity reflects the extent to which the researcher has controlled for extraneous variables so that any observed effects can be solely attributed to the treatment variable. In other non-experimental quantitative studies, internal validity is the summation of the reasons why the researcher will be confident that any conclusions the researcher makes are warranted from the data collected and the method used.

As a researcher in planning an experimental study must demonstrate that the methodology includes (a) controlling for extraneous or confounding variables, (b) ruling out alternative explanations, and (c) and ruling out rival hypotheses, a researcher planning other non-experimental quantitative methods must demonstrate that the methods used to collect and analyze the data will lead to the trustworthiness of conclusions drawn. Therefore, in this section you might

- reiterate the appropriateness of your instruments in terms of the constructs they measure and their validity and reliability;
- discuss the sample size relative to confidence limits and statistical power;
- emphasize the triangulation that you have incorporated in your method;
- emphasize how the limitations in your study and selection of key variables will preclude drawing an invalid conclusion;

- if applicable, rule out any *Hawthorne effect* [where participants change their behavior because they know they are in a study];
- if applicable, rule out an *Experimenter expectancy* [where the researcher selected participants that wanted the treatment to work or had specific knowledge, skills or attitudes that do not reflect their peers in general but do align with the researcher's intentions]; and/or
- rule out all potential sources for error in drawing invalid or inappropriate conclusions and inferences.

One of the best text books available that discusses this important aspect of defending a quantitative research method as the original work of Campbell and Stanley (1963) the researchers who developed the ideas of internal and external validity. Campbell and Stanley (1963, pp. 5-6) provided a checklist of factors (extraneous variables) that could jeopardize the internal and external validity of conducting experimental and quasi-experimental research. Campbell and Stanley's eight factors jeopardizing internal validity are history, maturation, testing, instrumentation, statistical regression, biases resulting in differential selection of respondents for the comparison groups, experimental mortality, and selection-maturation interaction.

Conclude this section by summarizing how you will counter threats to validity ensure the study will be internally valid.

Credibility (for Qualitative Research)

Discuss your strategies for ensuring accuracy and credibility such as triangulation and other procedures. Note that it may be helpful to review Leedy and Ormrod (2005) pp. 97-101.

Internal validity in a quantitative study is the extent to which a research design and its data results allow the researcher to draw accurate conclusions about the cause and effect and other relationships in the study. Internal validity in a qualitative study provides the researcher greater confidence that the results of a study would provide a comparable accurate response. Note that qualitative researchers typically substitute the term *internal validity* with the term *credibility.* Although we are not seeking *cause and effect* in qualitative research, we are seeking a comparable accurate response. In qualitative study the question of credibility hinges on the questions of

- how well do the research findings match actuality? and
- has the researcher provided enough detail to show that the researcher's conclusion makes sense?

Credibility in a qualitative study is also dependent on *dependability* [the qualitative analogue to the quantitative term *reliability*] and *confirmability* [the qualitative analogue to the quantitative term *objectivity*]. Credibility depends less on the size of a sample than on the richness of the information gathered and on the analytical abilities of the researcher (Patton, 1990).

Here are the most common means of demonstrating credibility

- triangulation (using multiple sources or methods to confirm the emerging findings);
- member checks (taking your data, analysis and tentative interpretations back to the participants or people from which the data were derived and asking them if the results are plausible;
- long term observation (either long term at the research site or repeated observations of the same phenomenon);

- peer examination (asking colleagues to comment on the data and findings as they emerge); participatory or collaborative modes of research (involving participants in all phases of the research from conceptualizing the study to writing up the findings;
- thick description (describing the situation or phenomenon in sufficiently thick, rich detail that readers can draw their own conclusions from the data you present);
- negative case analysis (this would be a final step in developing working or tentative hypotheses in which you actively seek out cases that contradict your tentative hypotheses and look for more evidence that either confirms or disconfirms these contracting cases and then adjust your tentative hypotheses accordingly);
- researcher's bias (clarifying the researcher's assumptions, worldview philosophical framework, and the theoretical framework and/or orientation for the research); and
- limitations (being crystal clear regarding what the study is not intended to do).

External Validity (for Quantitative Research)

External validity refers to the extent to which the results of the study apply to situations beyond the study itself. External validity is important to defending a research method because it determines how applicable research is to beyond the study. Discuss your strategies for ensuring the external validity of your proposed study. Will your findings have potential generalizability? Why or why not?

Transferability (for Qualitative Research)

Make a general assessment of whether your proposed study will have any potential transferability and if applicable, describe how, for example the data and analysis might lead to a

tentative or working hypothesis, concrete universals, naturalistic generalization, or user generalization. As with defending the credibility of your research design, describe strategies that will enhance transferability and often these are the same strategies as in *thick, rich description*, or they can vary as in emphasizing the typicality or modal category of your study, or by employing multi-sites, multi-cases, or multi-situations especially those that maximize diversity in the phenomenon of interest.

Transferability refers to the extent to which the results of the study apply to situations beyond the study itself. In other words how transferable are your results. Now understand that generalizability is most frequently a limitation or weakness in qualitative research. We purposively use one case or a small sample so that can understand the particulars in depth not so that we can be unequivocally certain that what we find from our small sample is universally true for the entire population.

It is often very difficult to make specific generalizations from qualitative research. The question of generalizability has continuously beset and plagued qualitative researchers. Is it possible to generalize from one case, one set of interviews, or one qualitative inquiry? If you apply the traditional research standards that grew out of experimental research to qualitative research, most qualitative research will fall short of the external validity requirements. One alternative approach social science researchers have used is to replace the notion of generalization with the concept of *working hypotheses*, which are *context-bound extrapolations*. Working hypotheses take into consideration the characteristics of the participants, the local conditions or specific context of the phenomenon of interest, and the uniqueness of the particular study. The working hypotheses approach is supported by Patton (1990) who argued that qualitative research should "provide perspective rather than truth, empirical assessment of local

decision makers' theories of action rather than generalization and verification of universal theories, and context-bound extrapolations rather than generalizations" (p. 491).

If your intentions are to develop working or tentative hypotheses, state this intention. If you believe that you will have strong evidence of crediblity as described above, use this argument to state that your findings might have transferability to other situations. Note the key words above *might have*. Of course, you cannot specify the transferability of findings; you can only provide sufficient information that can then be used by your readers to determine whether the findings are applicable to the new situation (Lincoln & Guba, 1985).

Expected Findings

This section provides a reader with a general sense of what the researcher expects to find in the results. A well written section might focus on findings at two levels or perspectives: the conceptual level describing how the research question(s) will be answered in terms of the theoretical or conceptual framework; and for a quantitative study, the level of the expected results. For example, “It is expected that there will be a statistically significant difference between the treatment and control groups at the $p = <.05$ level.”

Similarly qualitative researchers might state the expected findings form conceptual or theoretical positions and conclude that the findings might or might not confirm conceptual or theoretical assumptions or expectations. However, because qualitative researchers are expected to “bracket” or set aside their biases and preconceptions regarding the phenomenon or participants, the second level or perspective might describe the need to withhold these expectations. On the other hand, a qualitative researcher might identify the researcher’s biases in this section in order to bring them to conscious or overt level so that they can be bracketed or set

aside during data collection and analysis. Another process of critical self-reflection on a researcher's biases, theoretical or conceptual predispositions, and preferences is referred to as *researcher reflexivity*. This critical examination is not limited to personal biases and values regarding the phenomenon of the investigation but should include an ongoing awareness of the larger picture [e.g., how the researcher interprets and constructs meaning within the bounds of the researcher's worldview and epistemological understanding of knowledge construction and transmission].

Some qualitative researchers or their mentor or committee members believe that is impossible to not anticipate that a researcher will expect a certain result or finding and will want the researcher to address the researcher's expected findings. A clear discussion of expected findings might stimulate critical dialogue with the mentor and committee members and perhaps a critical review of data collection procedures and the findings, at a later stage.

One of the goals of this section is to allow both the researcher and the readers to be aware of any biases that the researcher might bring to the analysis of either qualitative or quantitative data. A discussion with the mentor regarding this section is always a good idea.

Ethical Issues

Researcher's Position Statement

Conflict of interest assessment. Researchers are required to ensure that academic, financial, or other personal interests do not compromise the objectivity with which their research is designed, conducted, and reported. Researchers and research supervisors are responsible for disclosing any personal relationships or financial interests that may present conflicts of interest and developing a plan to eliminate or manage potential conflicts of interest. Prior to approval of

research studies that may present a conflict of interest, the IRB Committee or designated reviewer will make a determination as to whether the conflict adversely. If applicable, explain how there will be no conflict of interest. If there is a potential or perceived conflict of interest, identify it and provide your strategies to avoid or mitigate a conflict of interest.

Researcher's position. Develop a brief position statement section. Describe your relationship to the problem, organization (if applicable), and potential participants. Describe your views on this topic and problem and the strategies you will take to avoid imposing your bias on the proposed study and findings. This is an important sub-section in terms of eliminating committee member's questions about your position, biases, and potential conflicts of interest at the proposal conference call. It is far better to address these issues with committee members during the proposal development/approval stage than at the proposal concall.

Ethical Issues in the Proposed Study

Briefly describe your approach to (a) protection from harm, (b) informed consent, (c) assurance of volunteerism, (d) right to privacy, (e) anonymity, confidentiality and the limits of confidentiality, (f) the potential negative risks for your participants and the steps you are taking to safe guard your participants from potential negative risks; (g) honesty with professional colleagues; and (h) any other related ethical issue that might arise. If you are conducting research with vulnerable populations such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons, address the additional safeguards you are putting in place to protect the rights and welfare of your participants. If you are using a sample from a vulnerable population, acknowledge that the sample is from a vulnerable population and be clear in delineating the procedures to ensure there will be absolutely no physical control, coercion, undue influence, and manipulation by the researcher,

the researcher's assistants, and other staff involved. For a sample coming from a vulnerable population, discuss the process that assures individuals have the right to volunteer or not volunteer and other safeguards you are proposing. While the federal guidelines require additional safeguards for children, pregnant women, and prisoners, other groups may also be particularly vulnerable. Researchers should take extra precautions in ensuring the rights and welfare of socio-culturally or medically vulnerable groups, targeted racial/ethnic groups or genders, individuals targeted because of their sexual orientation, institutionalized individuals, international individuals, soldiers, military personnel and veterans. In addition, when researchers involve students and workers in research on education and employment, it is important to guard against coercion and to consider the extra vulnerability of these individuals in such situations.

Chapter 3 Summary

Briefly summarize the salient points from chapter three. You goal should be to reinforce to your reader how your choice of method, data collection and data analysis clearly align with the research problem and research question. This section should be brief but compelling. Remember a proposal proposes research to be conducted and you want your reader to conclude that your proposal (a) addresses a practical problem with researching, (b) has a stand-alone literature review that presents the current research knowledge regarding your topic/problem, and (c) is capable [via the methodology] of answering the primary research question and additional questions you are posing.

CHAPTER 4. DATA ANALYSIS AND RESULTS

Overview for Preparing to Write Chapter 4

This section provides an overview of Chapter 4 and is not, like the sections that follow, part of the organization or format for developing Chapter 4. Please note that the Chapter heading above is intended for quantitative or mixed methods study. A qualitative study might label Chapter 4: Data Analysis and Findings.

The following overview of Chapter 4 was excerpted from Capella University *Dissertation Manual* (2011).

> Chapter 4 presents a non-evaluative reporting of the data, supported by tables, figures, and charts where applicable. If hypotheses or research questions guided the study, the data are reported relative to each hypothesis or research question.
>
> In the results chapter, the learner reviews the collected data and explains the statistical analysis performed on them. Usually, the section begins with a summary of the primary results of the study and then proceeds to describe the data in enough detail to demonstrate the credibility and validity of the conclusions. Tables or figures often provide the most efficient and effective means of communicating the data, but they should always be clearly referenced by title and explained in the body of the chapter so that readers can easily identify and understand them.
>
> This chapter will vary considerably in size and detail according to the research methods used. If, for example, the study reports the results of an empirical survey, much of the data will exist in the form of tables. On the other hand, if the study is qualitative in nature with reports of interviews, historical research, or conceptual analysis, more prose may be required. In either case, the chapter must provide sufficient detail for the reader to fully comprehend the results.
>
> Because the study has been completed, chapter 4 is typically written in the past tense. (p. 56)

As promoted by the *Publication Manual* of the American Psychological Association (2011) scholarly writing should be clear, precise, accurate, and concise. This reader-based writing style is particularly important in developing Chapter 4. The results and analysis chapter

can be complex and our job as writers is not to make the chapter more complex than is necessary. Organize and present the results and analysis in a manner that most easily makes sense to a reader. Quantitative studies are typically organized by the research questions and their hypotheses, if applicable. Qualitative studies could be organized by the research questions but more typically are organized thematically or in some instances might be organized by a theoretical or conceptual framework. If your study is a mixed methods study, consider the most logical manner to organize this chapter. Depending on the context of the study it might make sense to organize by first presenting the main findings for both the quantitative and qualitative strands followed by a more detailed analysis; or, it might make more sense to first present the numerical analysis and results followed by the qualitative findings that verify, clarify or elucidate the numeric results. Keep in mind that upon completing a read of Chapter 4 the reader should clearly understand the answer(s) to the research question(s) and how the answer(s) was obtained. The following are two suggested general outlines for Chapter 4; one is for a quantitative study and the other is for a qualitative study.

Quantitative Chapter 4

Introduction

Description of the Sample

Summary of the Results

Detailed Analysis

Chapter 4 Summary

Qualitative Chapter 4

Introduction

Description of the Sample

Research Methodology and Analysis

Summary of the Findings

Chapter 4 Summary

Additional Guidance

For quantitative research studies report the findings for the research questions [and hypotheses for quantitative research] in a logical, objective, and non-evaluative style. Organize the analysis by the research questions and hypotheses.

Qualitative studies will have primarily narrative reporting, but tables and charts may also be included because they are especially helpful to display demographics and or characteristics, and to provide an overview of all the themes, key findings, or categories and properties in a single illustration.

For quantitative studies there should be appropriate tables, statistical analyses, and description of data in a logical format. Review the APA publication manual 6th ed. Chapter 5 Displaying Results starting on p. 125, which describes how to present data findings. Review APA pp. 117-124 and pay close attention to formatting; note that (a) Greek letters, subscripts and abbreviations that are not variables are in the standard type face – most likely Times New Roman, (b) Symbols for vectors are bolded, and (c) all other statistical symbols are italicized.

For qualitative studies use pertinent quotes from your participants to emphasize or epitomize themes and meaning (findings) but do not use too many quotes. Keep your reader in mind and do not overwhelm your reader with excessive number of quotes. The length of Chapter 4 depends on the amount and depth of the analysis. For both quantitative and qualitative researchers it is important to follow a good guide [text or articles devoted to your research design] in presenting the data analysis.

As you develop Chapter 4 it is imperative that you keep in mind the distinctions between Chapter 4 and Chapter 5. Chapter 4 is not the place where you will evaluate or interpret the results or findings or identify limitations unless those limitations affect the data analysis. One way to approach Chapter 4 is to think of Officer Joe Monday [played by Jack Webb] from the old TV series Dragnet – "Just the facts Mam; just the facts" – stick with just the facts of your analysis in Chapter 4. Interpret the facts [the analysis] in chapter 5. If Officer Joe Monday does not make sense to you, that is fine – please understand that it is just an expression used by some of us aging baby boomers.

Introduction

Briefly introduce the chapter. Describe the chapter's purpose, how it fits into the overall dissertation, how the data were analyzed, a rationale for the analysis, how the chapter is organized, and a rationale for the organization.

Description of the Sample

Briefly describe the sampling procedures. If the sampling procedures changed from what was proposed, which requires an approve IRB Modification, report those change in both Chapters 3 and 4.

Describe the sample, the sample characteristics, demographics, etc. in tables and figures as needed. The description for a quantitative study should be done primarily demographic description with descriptive statistical information [e.g, frequencies, percentages, mean as applicable, etc.] related to the sample characteristics identified in Chapter 3 [e.g., e.g., age, gender, race, socioeconomic status, level of education, etc.]. For a qualitative study tables or

charts should be used but with less emphasis on descriptive statistics and more emphasis on key characteristics germane to the study's context. Use only enough narrative to present the tables or figures. As with all of Chapter 4 avoid being redundant between the narratives and tables or figures. The narratives and tables or figures should complement each other.

Typically new characteristics are not introduced in Chapter 4. However, there are a couple of exceptions. For example, at the proposal conference call the committee might suggest a new or additional characteristic or demographic be included. In the case that additional characteristic are recommended by a committee, Chapters 1 and 3 need to be revised to include that additional characteristic or demographic. Occasionally a researcher will have an unexpected finding and as a result conduct additional analyses including characteristics that were not in the approved proposal. If that is the case, the researcher should consult with the mentor and committee to determine what should be included in Chapter 4 and whether or not revisions are required for Chapters 1 and 3.

Qualitative studies such as ethnographic or case study designs or other qualitative designs using triangulation need to include descriptions of the settings, locations, school, community, etc. in which observations were conducted and or artifacts collected. They also include a description of external informants, data bases, records, documents, and any other source of information.

Report the sample size. Describe and discuss the proposed sample size, the number of participants invited to participate, the number of individuals who participated and response rate, if applicable, the number of participants who withdrew during the study, etc. For records-based research describe the number of records used and those not used, if applicable. Do not evaluate and discuss the implications of such information but rather leave that discussion for Chapter 5.

It is possible that a researcher developed the data analysis procedures in Chapter 3 based on a projected sample size and the study did not obtain that many participants. For a learner is conducting an experiment and aimed for 30 or more participants in each group so the learner can use analysis of variance (ANOVA). There is consensus in the literature that the minimally acceptable size for ANOVA is 30 observations per group or 30 observations per cell for factorial ANOVA. The learner recruited and only obtained 18 participants per group. There is consensus in the literature that 15 observations per group is the minimally acceptable sample size for a *t* test. Thus the researcher could justify using an independent samples *t* test instead of ANOVA. Therefore both Chapters 3 and 4 should reflect a *t* test instead of ANOVA. Both Chapters should state that ANOVA was planned but due to lower participation than anticipated a *t* test was conducted instead.

Summary of the Results [for Quantitative Studies Only]

Organize the *Summary of the Results* section by each research question or its null hypothesis, if applicable. Clearly, accurately, and concisely show the result for each research question. Statements here should simply summarize the results and not describe the analysis or details, which are presented in the next section. Within this section, if possible, limit the result to a single sentence concisely summarizing each result.

Here are two examples:

Research Question 1

A significant difference in reading scores was found between the class of third grade students who received the Tucker Reading Strategy intervention and the third grade class that did not receive the Tucker Reading Strategy intervention.

H_0 for Research Question 2

No significant relationship was found between the mean scores for self-efficacy and the mean scores for teacher engagement.

Research Design and Introduction to the Analysis [for Qualitative Studies Only]

This is a section that identifies the qualitative research design [basic qualitative, phenomenological, case study, ethnographic, grounded theory, etc.] and how the data were analyzed in relation to the specific design. This section provides an overview in light of introducing the reader to the *Summary of the Findings* section, which details the analysis that follows. For example, in a case study each analysis for the observation data, the artifacts, and the interviews should be briefly presented. For a phenomenological study, on the other hand, introduce the methodological model of phenomenological analysis [e.g., Colaizzi model, Giorgi model, Moustakas model, Stevick-Colaizzi-Keen method of analysis, van Manen model, etc.]. The various step-by-step data analysis procedures and levels of analysis should be outlined in this section and can also be interwoven within the findings detail if doing so will provide more clarity to a reader. If there were any changes from the protocols and procedures described in Chapter 3, they need to be identified here and in Chapter 3. If there were problems in the data collection and or analysis, identify those problems here.

Detailed Analysis [For Quantitative Research Only]

This section presents a detailed depiction of the data analysis and the results. As with the Summary *of the Results* section above, this section is typically organized by the research

questions and their hypothesis, if applicable, in sequential order, and describes the analysis, and presents the results for that hypothesis or question. For each research questions clearly describe

- the analysis and how it was conducted;
- the statistics (both descriptive and inferential, as appropriate);
- the resulting data (typically presented in tables or figures);
- related information in sufficient detail to demonstrate how the results were obtained. For example, discuss the assumptions underlying each test and describe why the test is appropriate for the research question.

For reporting inferential statistical tests also include

- the detailed results of the specific test [e.g. *t* test, chi-square, ANOVA, multiple regression, etc.]
- the alpha level;
- an explanation of whether or not the researcher rejected or failed to reject the null hypothesis and why;
- critical information for interpreting the results [e.g, the role of sample size, statistical power, effect size, confidence intervals, and assumptions underlying the model adopted; and any other important information bearing on the rejection/fail to reject and interpretation].

Carefully review the APA manual 6th ed. pp 30-35 and pp.116-124 for critical information required in presenting the results. These sub-sections responding to research questions need to be clear, accurate, and concise. Do not include any explanations or interpretations, or descriptions of other aspects of the analysis (such as limitations, alternatives that might have been tested, etc.). This information will be discussed in Chapter Five. Here, simply give the

details of each analysis and each result obtained. Review the APA manual 6th ed. pp 116-125 for reporting statistics in text and consult standard texts on statistical presentation for the proper phrasing of results. An excellent resource for phrasing statistically significant and non-significant results is the work of Cronk (2008).

Summary of the Findings [for Qualitative Studies Only]

How the detailed findings are organized and presented relate directly to the specific research design. Below are some general guidelines describing what should be included in this data analysis findings section for the most common qualitative designs. Keep in mind that in qualitative research there will be some variation in designs so the following provides a general structure that can be modified as needed. One commonality for all qualitative analyses is for the researcher to use verbatim passages and direct quotes from the data to elucidate each theme. It is important to not overuse verbatim passages and direct quotes but to use them judiciously so they elucidate themes or key findings. It is also permissible to use tables and figures to emphasizes or depict key findings or to develop a conceptual model.

Basic Qualitative Research Designs

Basic interpretive qualitative research designs typically analyze collected data thematically [e.g., inductive analysis, theoretical analysis, and thematic analysis with constant comparison]. This section can be organized thematically or by levels of analysis. The section will conclude with an interpretation of the themes that answers the research questions.

Case Study Research Design

Typical case study analyses include:

- Identification of the *unit of analysis* [case, cases, process, phenomenon, or bounded system];
- A detailed and rich *holistic description* of the unit of analysis [case, cases, process, phenomenon, or bounded system], which can be chronological or thematic;
- *Category/Theme Construction*: Recurring patterns, meaning-rich instances, conceptual abstractions, and classification schemes derived from the data and are aggregated into categories of meaning (themes). These patterns, categories and themes should be described and direct quotes from the data are used to elucidate each pattern and theme;

- Collective case study research [multiple case study] typically presents two levels of analysis: (a) *Within-case analysis*, in which each case is analyzed as a comprehensive case and themes and patterns of meaning are described that have emerged from the data; and (b) *cross-case analysis* that involves synthesis and cross validation of findings, patterns, themes, explanations, processes, and outcomes; and
- *Interpretation* that answers the research questions.

Ethnographic Research Design

Because of the similarities in data collection methods between ethnography and case studies [e.g., observations, artifacts, interviews], the analyses will be similar in many ways [e.g., rich, thick description, patterns, meaning units, themes]. However, the two analyses diverge in

other ways. For example, an ethnography analysis includes a sociocultural interpretation of the data while the case study analysis does not. Ethnographers often construct "culture stories" or "organizational stories" that epitomize the essence of key themes and cultural characteristics. As done by some anthropological researchers, ethnographers might use preexisting category schemes to organize and analyze their data. In other cases educational ethnographers might construct a classification system [typology] derived from the collected data.

Grounded Theory Research Design

Because grounded theory uses the constant comparative method, the data analysis is typically organized by the coding process [open, axial, selective], which also reflect levels of analysis and the corresponding development of categories and subcategory, properties, propositions or tentative hypothesis, and substantive theory.

Phenomenological Research Design

The organization of the detailed data analysis should align closely to the phenomenological methodological model the researcher has followed [e.g, Colaizzi's seven steps, Giorgi's approach, Moustakas's model, etc.] Follow the procedures or steps appropriate to the methodological model. Here is a general outline common to most phenomenological methodological models:

- Identification and presentation of the basic meaning units derived from the data analysis;
- Identification and presentation of the clustered themes or core themes derived from the meaning units;

- Description of themes [e.g. “transformations” in Giorgi’s approach or the two descriptive levels of “textures” and “structures” as done in Moustakas’ model].
- Composite descriptions [as in combining textural and structural descriptions in Moustakas’ model];
- An across-cases interpretation of the universal or common themes;
- Synthesis, integration, and identification of “shared essence” and meaning.

Chapter 4 Summary

Present a summary of the findings. Briefly review the main points of Chapter 4 and succinctly answer the research questions and hypotheses, if applicable. Although this summary should smoothly transition the reader to the next Chapter, this section can also be used as a basis for develop the Chapter 5 *Summary of the Results* section.

CHAPTER 5. CONCLUSIONS AND DISCUSSION

Overview for Preparing to Write Chapter 5

Chapter 5 is the most important chapter and typically one the most challenging chapters to write. Often savvy consumers of dissertation studies will only read the abstract and chapter 5. The abstract is sometimes more difficult to write than Chapter 5 because it is a distillation of Chapter 5. Although developing the abstract is less difficult if done after Chapter 5 is written, you can think of Chapter 5 as an expansion of the abstract that provides a comprehensive yet self-contained summary of the study's findings and what those findings mean in light of the problem researched, the literature [research and theory, the field in terms of practice and communities of practice, and to the Educational scholarship and wider communities in general. The following is a suggested general outline for Chapter 5. It is written for a quantitative study. For a qualitative study simply replace the word "Results" with "Findings."

Introduction

Summary of the Results

Discussion of the Results

Discussion of the Results in Relation to the Literature

Limitations

Implication of the Results for Practice

Recommendations for Further Research

Conclusion

Introduction

Prepare an introduction to your Chapter 5 that (a) explains the purpose of the study, (b) briefly identify the methodology and research design, (c) informs your reader about what Chapter 5 will do [its purpose], (d) orients your reader to how Chapter 5 is organized, and (de describes how the chapter fits into the overall dissertation.

Summary of the Results

In this section clearly, accurately, concisely, and objectively summarize the results [for quantitative studies] or findings [for qualitative studies]. Be reader-based in developing this key section. As a general rule of thumb using a "*general-to-specific pattern*" works well in summarizing your results so they are easily understood. You can do this by beginning each paragraph with a general statement of your results followed by the details that support it. For quantitative studies organize this section by the research questions. For qualitative studies the section can be organized thematically or by answering the research questions sequentially. Avoid interpretations in this section, which will you can offer in the discussion section that follows.

Discussion of the Results

In this section interpret the results or findings and qualify your interpretation with the related literature [research and theory]. What do the results or findings mean? What do the study's results or findings mean in light the practitioner's practice problem or theoretical debate or controversy that drove the need for the study? What do the study's results or findings mean

in light of existing findings in the field? What might the results of findings mean? Where the research questions adequately answered? Why did the study's results or findings turn out the way they did?

Sometimes a study's analysis and results fail to support for the hypothesis or the results only partially answer the research question(s). Provide an explanation of any unanticipated results. Often when the study's results are not expected, a researcher will use the literature to find analogous situations and frame a plausible explanation. Or was it something about the research design such as a limitation or methodological flaw that accounts for the unanticipated outcome? Sometimes the researcher must make a best estimate [e.g., one possible explanation for . . . is . . .]. When the hypothesis is not supported or only a partial answer is obtained, what are the implications regarding the value or clarity of the original research question(s)? Should similar further research not be recommended or should the research questions be modified in further studies?

Discussion of the Results in Relation to the Literature

Discuss the relationship between the results or findings and the literature. Throughout chapter 5 there should be citations drawing connections between what the results or findings and the work of other scholars.

Relationship between the Results and the Theoretical or Conceptual Framework

One of the critical competencies of conducting research is to advance theory through testing, extending, refining, evaluating or challenging theory or a conceptual framework. How did the findings confirm or disconfirm theoretical concepts, assumptions or expectations? If a

conceptual framework was used in place of theory, did the results confirm or disconfirm the assumptions or expectations of that conceptual framework? What are the theoretical ramifications resulting from your study's results or findings?

Relationship between the Results and the Literature Reviewed

After connecting the findings to the theoretical or conceptual framework, discuss the relationship between the findings and the literature reviewed? Did the literature reviewed in Chapter 2 align with and support the findings? Why or why not? If new relevant literature was reviewed after Chapter 2 was written and there is a connection or support between the findings and that literature not included in Chapter 2, include a discussion of it here.

Limitations

Having conducted and considered the results or findings, you should be able to see the study from a new perspective regarding the limitations of the study. In other words you the should now have additional insight regarding the scope of the study, what it achieved and could not achieve, and the interpretation and implications of the findings in terms of what the findings can and cannot provide. Please note also that design limitations are a common cause of unexpected results. Describe the study's limitations. Your critical assessment in this section should lead to improvements that could be applied in future research.

Implication of the Results for Practice

Identify the implications for practice. Please note though that not all educational studies will have implications or recommendations for practice. Any implications or suggestions or calls for change should be drawn directly from and supported by your study's results of findings. Also

before making a generalization to the population at large from which the sample was drawn, consider the size, corresponding confidence levels and intervals, and representativeness of your sample. When discussing practice implications from the findings from a qualitative study, which lacks the sample size to generalize, use common sense and make recommendations for change judiciously. Ensure those recommendations are drawn directly from the findings.

Recommendations for Further Research

Make recommendations for further research that are needed and that have arisen from but were not incorporated in the study or supported by the data. Recommendations, if applicable, can be made to complete the research cycle or agenda.

Conclusion

In this section provide a final summary of the answers to the research question and provide closure to the dissertation as a whole.

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APPENDIX A

Examples of Research Questions and Examples of Aligned Problem Statements, Purpose Statements and Research Questions

Below are examples of problem statements.

Quantitative Research

Statement of the Problem: Five Quantitative Examples

Descriptive survey design. The ongoing development of individuals who can effectively lead in a global economy is important for organizational success as well as for the development of vital communities that contribute to an enhanced quality of life. The White House Project Report – Benchmarking Women's Leadership (2009) indicated that for transformational leadership to emerge, it is crucial to have a critical mass of exceptional women leaders alongside men leaders to "build a strong economy, better institutions and a more representative democracy" (p. 5). Although there is a popular perception that women are already equally represented in leadership positions across most sectors, the White House Report stated that women hold only 18% of top leadership positions nationally. While there are some programs that effectively contribute to women's growth and development as transformational leaders, little is known regarding the perceived effect of these programs in creating women leaders that have or can contribute toward creating stronger and healthier organizations and communities. In order to improve women's development as leaders, adult education, leadership development, and human development practitioners and researchers need to know more about how transformational learning experiences contribute to women's development (Frye, 2010). While there is research indicating that women's leadership development needs to be tailored for women's specific needs (Hopkins, O'Neil, Passarelli, & Bilimoria, 2008) and research indicating that holistic, integrated learning experiences contribute to women's growth and development (Mainiero & Sullivan, 2007; Ruderman & Ohlott, 2008) there is a gap in the current knowledge base regarding women's perceptions of their growth and subsequent change when they have participated in intensive integrated, transformational learning experiences (Frye, 2010; McKenna & Lynch, 2009).

Experimental design. While accelerated learning is based on well-tested theories of brain-based learning, the theory of multiple intelligences, and adult learning, there is little formal research that implemented and tested this model of accelerated learning in corporate training environments (Meier, 2009; Meier & Burrington, 2010). New employee orientations are typically used by companies to familiarize new employees with the companies' policies and practices but current research (Rose & Nicholl, 2009; Scott, 2010; Swenson & Tagg, 2009) continues to demonstrate that new employees report (a) too much content was included leaving them overwhelmed, (b) orientations were too long, (c) difficulty in focusing attentions, and (d) difficulty in retaining the content covered. Therefore new approaches to new employee orientation need to be developed and tested to find the most effective means of delivering

content. The incorporation of accelerated learning into a corporate new employee orientation program might be more effective than traditional workplace orientation training methods.

Predictive correlational design. School violence continues to be a recurrent nationwide problem (Cornell & Mayer, 2010; Fong, Vogel, & Vogel, 2008). School administrators, teachers, students, and parents are concerned about school violence and what can be done to reduce the level of violence in schools. Although the overall number of school violence incidents has declined in the last 10 years, the current problem is the increasing level of violence found among school violence incidents (Buchan & Manning, 2009). Although it is imperative to find effective strategies to reduce the incident of school violence, it is also important to understand what aspects of the existing school environment mitigate school violence (Ozbay & Oczan, 2008; Peguero, 2008; Welsh, 2009). It would be useful to school administrators to know if student bonds with school staff members and friends, school sponsored activities, a commitment to achievement, and beliefs in conventional values can reduce the occurrence of physical fighting in schools. Despite previous studies touching on components of the social bond theory, few studies (Hoffmann & Xu, 2002; Peguero, 2008; Sprott, Jenkins, & Doob, 2005) specifically address self report data of a large sample of adolescents from a variety of backgrounds across the United States while also focusing specifically on the level of involvement in a variety of school activities, attachments, commitment to achievement, and beliefs in conventional values. Therefore, more knowledge is needed regarding the predictive relationships among student attachments, involvements, commitments, and beliefs (as described in the tenets of the social bond theory) and the incidents of physical fighting in schools (Ozbay & Oczan, 2010; Peguero, 2008; Welsh, 2009).

Causal comparative design. Although some research findings (cited sources go here) suggest that abstinence-only education programs are effective at reducing teen pregnancy, other studies (cited sources go here) suggest that such programs are not effective and because these programs fail to provide adequate information to protect teens' health can lead to the unintended negative consequence of increased cases of HIV. Public health policy makers need education researchers to carry out more studies to determine the effect of abstinence-only education programs on the numbers of teenage pregnancies. Therefore, research problem is a need to compare the numbers of teenage pregnancies for teens who participated in abstinence-only education programs with the numbers of teenage pregnancies for teens who participated in other teen pregnancy education and prevention programs.

Program evaluation. Children services administrators and social workers are challenged in helping foster children overcome barriers to academic achievement. Current research (Armstrong & Morgan, 2009; Locklear & Woods, 2009; Schaeffer, 2010) reflects an ongoing problem of educational challenges for foster children, particularly following their placement into foster care. As a result, a new assessment and intervention program was developed in St. Louis, MO that was designed to assess the academic performance of foster children and implement intensive academic intervention strategies during the first 90 days of entry into foster care. Although the program has been in existence for nearly two years, the problem is that no formative program evaluation has been conducted to determine the extent to

which the program is achieving its stated goals and objectives and to determine what areas of the program need strengthening.

Qualitative Research

Statement of the Problem: Three Examples

Phenomenological design. Current research (Bolton, 2010; Douglas & Michaels, 2009; Hochschild, 2006 & 2010; Kramare, 201; Zappert 2009) has revealed that professional women typically experience a significant amount of internal conflict between two shifts—their "*shift*" as moms and their work as professionals. Because of this conflict, women may leave their occupations due to professional demands that work against their family responsibilities. Essentially these women are also juggling a third shift—a psychological phenomenon in which women experience an inward journey toward self-doubt offering self-critical voices regarding our inability to effectively balance personal and professional responsibilities (Bolton, 2010; Hallowell, 2008; Zappert, 2009). While the connection between personal and professional life has been well established for employed women outside of the field of education, no researchers have examined this connection for P-12 school female principals (Blackhurst, Brandt, & Kalinowski, 2008 & 2010; Evans, 2009). Women's experiences balancing and navigating through the second and third shifts have not been fully examined in relationship to their roles as school principals. Little is known about how female school principals experience the demands and conflicts between their personal and professional roles and responsibilities and the meaning they ascribe to these experiences (Blackhurst, Brandt, & Kalinowski, 2008 & 2010, Evans, 2009).

Basic qualitative design. As the cultural and racial make-up of large urban school districts have become more diverse, effective strategies and processes are needed by school principals to lead change that will promote powerful teaching and learning for all students. Effective change strategies and processes have become a critical and strategic imperative for transitioning large urban multicultural school districts into culturally responsive environments (Jackson, 2009, Ortega & Wilcox, 2008). Although there is a growing body of evidence that supports preparation of principals as instructional leaders, more research is needed to identify and clarify the specific strategies, processes, and behaviors required to effectively lead school transitions (Conner & Martin, 2009; Nygren & Brunkow, 2007; Wade, 2010). Although a recent state report identified the large urban school districts that have made the greatest progress in culturally responsive education (Fernandez, 2010), little is known about the specific strategies, processes, and behaviors principals used to make that progress. Therefore, the problem is gap in knowledge regarding the specific strategies, processes, and behaviors principals used to effectively transition their schools' educational environments to become more culturally responsive.

Basic qualitative study design. The United States is in critical need of more engineers, including mechanical, civil, electrical, computer, industrial and chemical, who can provide

important solutions to this nation's economic downturn and scientific standstill (NSF, 2008). Women are cited as the undiscovered resource and the only solution to the upcoming shortages (Committee on Maximizing the Potential of Women in Academic Science and Engineering, 2007; Goodman, 2008). After 20 years of the continuing trend of female under-representation in the engineering field, it appears colleges and universities lack support systems for female students and graduate women engineers (Goodman, 2008). Nevertheless some women persist and graduate. Yet, little is known about the motivation and strategies these female engineers used to persist to graduation, thus a knowledge gap exists regarding the experiences, success strategies, and perceived needs of those women who persisted and graduated with engineering degrees. Developing a knowledge base of the perceived contributing factors to female engineers retention and graduation could become an important first step in the process of developing student support systems for females pursing engineering degrees.

Purpose Statements

Below are examples of purpose statements.

Quantitative Research Examples

The purpose of the proposed descriptive study is to examine the characteristics of . . . and compare them to . . . in order to . . .

The purpose of the proposed quasi-experimental study is to determine if the _____ intervention will lead to significant differences in the ____ scores between the two treatment and control groups in order to demonstrate that effectiveness of the new intervention.

The purpose of the proposed predictive correlational study is understand the interrelationships among [list the independent variables] and the [list the dependent variable]. Understanding the strongest predictive independent variables will provide . . .

The purpose of the proposed program evaluation study is to measure the extent to which the _____ program is achieving the program's stated goals and objectives in order to determine outcomes, strengths and weaknesses of the _____ program.

The purpose of the causal-comparative design study is to determine the effect of abstinence-only educational programs on the numbers of teenage pregnancies in order to determine whether the abstinence-only educational programs should be continued.

Qualitative Research Examples

The purpose of the proposed basic interpretive qualitative study is to discover and understand . . . in order to . . .

The purpose of the proposed intrinsic case study is to explore and describe . . . in order to . . .

The purpose of the proposed phenomenological study is to discover and interpret the essence of the experience of . . . in order to . . .

The purpose of the proposed action research study is to develop . . . in order to . . .

The purpose of the proposed qualitative study consisting of content analysis of secondary data is to discover . . . in order to . . .

Remember, the purpose statement should mirror the problem statement and the primary research question. If adding the reason for the research [in order to . . .] makes the sentence too long, use two sentences instead. For example, [The purpose of the proposed correlational study is to examine the relationship between . . . Understanding the relationship between . . . will . . . [accomplish what research goal?]

Examples of Problem Statements, Purpose Statements, and Research Questions that Are Aligned

Below are two examples of problem statements, purpose statements, and research questions that are in complete alignment.

Quantitative Research

Statement of the Problem

Experimental design. While accelerated learning is based on well-tested theories of brain-based learning, the theory of multiple intelligences, and adult learning, there is little formal research that implemented and tested this model of accelerated learning in corporate training environments (Meier, 2009; Meier & Burrington, 2010). New employee orientations are typically used by companies to familiarize new employees with the companies' policies and practices but current research (Rose & Nicholl, 2009; Scott, 2010; Swenson & Tagg, 2009) continues to demonstrate that new employees report (a) too much content was included leaving them overwhelmed, (b) orientations were too long, (c) difficulty in focusing attentions, and (d)

difficulty in retaining the content covered. Therefore new approaches to new employee orientation need to be developed and tested to find the most effective means of delivering content. The incorporation of accelerated learning into a corporate new employee orientation program might be more effective than traditional workplace orientation training methods.

Purpose of the Study

The purpose of the proposed quasi-experimental study is to test the effectiveness of Meier's (2000, 2010) accelerated learning method in a New Employee Orientation course by comparing the learning gains, attention, and attitudes of new employees in an accelerated format with those new employees attending the a similar orientation offered in its traditional format. The study will serve as a preliminary attempt to determine if traditional workplace orientation training could be replaced by accelerated learning.

Research Questions

Is there a significant difference between learning gains, as measured through a pretest and posttest, for new employees who participate in an orientation program using accelerated learning methods and new employees who participate in an orientation program using traditional workplace presentation methods?

Is there a significant difference between new employee attention rates, as measured through observation and survey instruments, for new employees who participate in an orientation program using accelerated learning methods and new employees who participate in an orientation program using traditional workplace presentation methods?

Is there a significant difference between attitudes of students, as measured by a survey instrument, for new employees who participate in an orientation program using accelerated learning methods and new employees who participate in an orientation program using traditional workplace presentation methods?

Qualitative Research

Statement of the Problem

As the cultural and racial make-up of large urban school districts have become more diverse, effective strategies and processes are needed by school principals to lead change that will promote powerful teaching and learning for all students. Effective change strategies and processes have become a critical and strategic imperative for transitioning large urban multicultural school districts into culturally responsive environments (Jackson, 2009, Ortega & Wilcox, 2008). Although there is a growing body of evidence that supports preparation of principals as instructional leaders, more research is needed to identify and clarify the specific strategies, processes, and behaviors required to effectively lead school transitions (Conner & Martin, 2009; Nygren & Brunkow, 2007; Wade, 2010). Although a recent state report identified

the large urban school districts that have made the greatest progress in culturally responsive education (Fernandez, 2010), little is known about the specific strategies, processes, and behaviors principals used to make that progress. Therefore, the problem is gap in knowledge regarding the specific strategies, processes, and behaviors principals used to effectively transition their schools' educational environments to become more culturally responsive.

Purpose of the Study

The purpose of the proposed qualitative study will be to uncover, identify, and describe specific strategies, processes, and behaviors multicultural school leaders used to effectively move their schools toward culturally responsive education. Discovering the strategies, processes, and behaviors that led to effective change will provide valuable insights for school leaders, strategic planners, and policy makers who want to develop school reform based on best practices.

Central Research Question

What specific strategies, processes, and behaviors have multicultural school principals used to successfully move their schools toward culturally responsive education?

Additional Research Questions

What were greatest challenges and obstacles school principals face when attempting to move their schools toward culturally responsive education?

What would school principals do differently if they were to lead a transition for another school in the future?

APPENDIX B

Quantitative Research Questions, Hypotheses and Null Hypotheses

Material adopted from http://www.statpac.com/statistics-book/basics.htm

Many of you will be planning quantitative studies. Here is some help with developing quantitative research questions and hypotheses.

There are basically two kinds of research questions: (a) testable research questions, and (b) non-testable research questions.

Testable research questions are not necessarily better than non-testable questions. What is more important is that the research questions align with the problem, purpose, and research design.

Below are two examples of non-testable questions used in descriptive research:

> What are circumstances and experiences that school counselors report as key factors in their decisions to quit or change occupations?
>
> What are the characteristics of individuals who have been the victims of disaster fraud?

Respondents' answers to these questions could be summarized in descriptive tables and the results might be valuable to the administrators and strategic planners.

Human Services researchers often ask non-testable research questions. The limitation of non-testable research questions is that they do not provide objective cut-off points for decision-makers.

For non-testable questions we do not develop hypotheses. Inferential statistical tests, which test null hypotheses, simply do not fit with non-testable question.

Educational research that investigates a problem, condition or phenomenon that goes beyond describing characteristics typically seeks to answer one or more testable research questions.

Nearly all testable research questions begin with one of the following two phrases:

Is there a significant difference between . . . ?

Is there a significant relationship between . . . ?

[Grammatical note: we use the word *between* when there are two variables and we use the word *among* when there are three or more variables]

Examples:

> Is there a significant difference between how male and female first year teachers respond to classroom management problems when mentored by veteran teachers who have significant classroom management experience?
>
> Is there a significant relationship among self-efficacy, race, experience, level of training, and motivation for substitute teachers who persist after three years of teaching experience?
>
> Is there a significant relationship among gender, race, age, income, and intervention outcomes?

A research hypothesis is a testable statement of opinion. An alternative research hypothesis is created from the research question by replacing the words *"Is there"* with the words *"There will be"*, and also replacing the question mark with a period. The research hypotheses in a proposal for research for the three previous sample research questions are:

> There will be a significant difference between how elderly adult males and elderly females perceive the need for forming new attachments following the death of a partner?
>
> There will be a significant relationship between family income levels and gambling problems?
>
> There will be a significant relationship among gender, race, age, income, and intervention outcomes?

It is not possible to test a hypothesis directly. Instead, the researcher must convert the research hypothesis into a null hypothesis. The null hypothesis is created from the hypothesis by adding the words "no" or "not" to the statement. For example, the null hypotheses for the three examples are:

> There will be no significant difference between how elderly adult males and elderly females perceive the need for forming new attachments following the death of a partner?
>
> There will be no significant difference between white and minority residents with respect to what they believe are the most important crime problems facing the community?
>
> There will be no significant relationship between income and gambling problems?
>
> There will be no significant relationship among gender, race, age, income, and intervention outcomes?

APPENDIX C

Determining Sample Size and Confidence Levels

If your intention is to generalize your results to a specific population [for which you know the size] from which the sample will come, you will need to determine an appropriate sample size to achieve a confidence level of 95-99% and a confidence interval of 1-5% and discuss how you "determined your targeted sample size" in the sampling section.

To determine a sample size that gives credibility to any inferences you intend to make from your results to the specific population [which you know the exact size] from which the sample came, you will need to calculate a sample size based on the size of your population and the confidence limits you establish. In other words, what will be your confidence level and confidence intervals?

A confidence level is a desired percentage of the scores or values [usually 95% or 99%] that would fall within a certain range of confidence limits.

Sampling theory tells us that we can be confident that our sample's (scores or values) lie within a certain margin of error (i.e., a confidence interval). The theorem states that 95% is a desirable confidence level because it means that 95% of the scores or values would be within two standard deviations of the true value.

A confidence interval is a range of values with a known probability of including the true population value. The confidence interval is the margin of error based on sample size and a confidence level set by the researcher.

Desirable confidence levels are generally set between 95% and 99%. A confidence level of 95% means the scores or values have a probability of being reflective of the population by plus or minus some percentage reflecting the confidence interval [with 1 to 5% confidence interval being most desirable]. Thus - 1 to 5% margin of error – that is the percentage of chance that we would make a Type I error.

Here is a link to an online sample size calculator. If you intend to make inferences back to the population at large, use this to determine the size sample you need.
http://www.surveysystem.com/sscalc.htm

This is how to use the calculator - imagine you want to survey a department with 1,300 members. Set your confidence level at 95%. Set your confidence interval at 5. Put 1,300 in the population and click calculate. The sample size you need in order to have a 95% confidence level and a plus or minus 5% margin of error will be 297 participants. If you conduct a survey of this department [1,300 members] and only get 90 responses, that sample size will reflect a margin of error of plus or minus 10%.

Here are others links in case there is a problem with the one above:
http://www.dimensionresearch.com/resources/calculators/conf_means.html
http://www.psychnet-uk.com/experimental_design/online_calculators.htm

http://www.changbioscience.com/stat/ssize.html
http://www.virtualstatistician.com/article122.html

To calculate an effect size for an experiment see
http://www.uccs.edu/~faculty/lbecker/

APPENDIX D

Instructions for Preparing an Abstract

Develop a proposal abstract by following the guidance found on pp. 25-26 of the APA publication manual, 6th edition (2010). Develop a clear problem statement – in a single sentence if possible – to begin your abstract. See APA (p. 26) and follow the first three bulleted points for reporting the results of an empirical study [identification of the research problem, and a brief overview of the research design and analysis, and sample discussion]. Note that your verb tense will differ from the APA guidance because you will use future tense language for proposing. Once you complete your study you will revise the abstract convert the verbs to past tense and include a discussion of all five bullet points identified on p. 26 in the section for reporting the results of an empirical study. Refer also to the *Capella Dissertation Formatting Guide for APA 6th ed.* for additional guidance.