

Teaching Students How to Write a Chapter Four and Five of a Dissertation

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The process of getting a dissertation proposal approved is often so stressful and time-consuming that the student has a hard time refocusing on the next step of writing chapter four and five of the dissertation. In some cases, overwhelmed students do not understand how difficult gathering data can be, despite extensive notes by the student in year three residency where chapter four and five instruction is given. When the reality of analyzing data and presenting findings in chapter four and five occurs, students can be lost. A good dissertation mentor will help learners re-establish an academic passion when gathering, analyzing, and presenting data in chapter five. A good dissertation mentor will help learners show academic passion for implications and practices of results in chapter five.

The purpose of this article is to share a general outline of how to teach students to write chapter four and five of a dissertation. Students will find this outline helpful when beginning the process of writing chapter four and five of a dissertation after gathering data. Dissertation mentors can share this outline with students as a general guide. A discussion on Chapter four and five tips and outlines of sections follows. A qualitative method outline is included with information on a quantitative outline for chapter four and five.

## Definition of Chapter Four and Five

*Chapter four* of a dissertation presents the findings from the data gathered by the researcher. The nature of the design determines the presentation of the data. For example, one student's "purpose of this quantitative correlational study was to determine the relationship between superintendent tenure and academic achievement scores" (Segori, 2006, p. 73). In this example, the student would organize results by the significance of each hypothesis; present first any hypothesis that clearly showed a significant and high degree of correlation in chapter four.

Section titles organize the data in a logical manner. Findings are presented in detail, in sufficient manner (Simon, 2006), and describe the systematic application of the methodology (Simon). Literature reviews for similarity are not part of chapter four and are generally part of chapter five (Creswell, 2004).

*Chapter five* of a dissertation is often the hardest dissertation chapter for students to write, but if the learner is excited about the findings presented in chapter four, a clear academic passion is apparent in chapter five. Chapter five summarizes presented in chapter four, but with a caveat – who and why would leaders care about the results? For example, one student is researching if interventions enable nurses to pass the certification the first time to increase the numbers of nurses available (Carl, 2006). There is a large shortage of nurses and many nursing students do not pass the certification on the first or second time; the number of nurses certified limits any national disaster where a large number of nurses is needed (The Pennsylvania Workforce Investment Board, 2005).. The leaders who care about the results of this study are the nation's leaders, health leaders who operate with a shortage of nurses, and sick or affected by catastrophic

emergencies who will suffer when not enough nurses are available to help during extreme times of national need (Veenema, 2003; World Health Organization, 2006; Center for Disease Control, 2006b).

Chapter five should report findings in chapter four reporting a knowledge not reported by any other literature. Why do educational leaders care? Report the importance, meaning, and significance with passion in chapter 4 (Simon, 2006).

In general, chapter five should have the same section titles as presented in chapter four to ensure that the flow of chapter five matches what titles in chapter four. A common student mistake is to present an analysis in chapter five that has nothing to do with what information in chapter four so using the same section titles keeps the student on track. The mentor should remind the student that the reader needs to see a clear connection; there should be a *connecting thread* between all chapters. The student should remind the reader of the purpose of the study in chapter four and five as part of the introduction to each chapter (Creswell, 2004). The remaining sections of chapter four depend on the methodology employed and is divided by qualitative and quantitative designs in the following parts of this article.

#### Chapter Four – Qualitative Version

Chapter four in qualitative studies by the nature of the design is typically longer than a quantitative chapter four where descriptions are the results of statistical tests in numerical format. In general, the length of a qualitative chapter four is 25-35 pages (Simon, 2006), depending on how many themes chapter four discovered.

Following the introductory paragraph where the researcher reminds the reader of the purpose statement. Simon (2006) recommends that the researcher include a section on

the data demographics explaining the age, gender, or relevant related information on the population. The researcher narrates a summary of the demographics of the sample, and if the table is concise, presents demographics in a table format after the narration.

Otherwise, the table is included as an Appendix and referred to in the narrative of chapter four (American Psychological Association, 2001).

#### *Qualitative Chapter Four Findings*

The next section in chapter four should relate to the findings in the data. There is no single way to present the findings of a dissertation because the presentation depends on the design, but in general, a qualitative study typically analyzes qualitative data for patterns or themes, and is presented based on the major themes found in the data.

Common methods to present themes are based on the unit of analysis. For example, a unit of qualitative measurement could be leadership traits and organized into major patterns (Yin, 2004). If the design is historical, organize the findings by time (Creswell, 2004). If the design is a single-case study, the unit of presentation is the entire case being studied (Yin, 1993).

Chapter four should not include a comparison of findings with previous literature studies that is part of chapter five. *Chapter four should present the findings.*

#### *Employ Section Titles for Themes and Sub-Themes.*

Regardless of the method of organizing the findings, use section titles to guide the reader. One example is to group the data by major themes found in the data itself, with each section title a *theme of significance in the responses*. Significance in the responses means that a major count or percentage of the number of the population participating in the research study gave the same or very close responses. For instance, if the researcher

interviewed 25 CEO women on how they broke through the glass ceiling to obtain top leadership positions commonly held by men, and 24 out of 25 women reported one method was to network on a daily basis, these similar responses would be a major theme. In contrast, if only seven out of 25 women responded in a similar manner, this lower percentage would not be defined as a significant theme. The researcher would report the theme in chapter four with this section title: *Theme One: Daily Networking* under the findings general heading.

Under each theme, if sub-themes are noted, group sub-themes by the next level of section title headings following APA formatting rules. For example, if under *Theme One: Daily Networking*, a sub-theme of 16 out of 20 women said that accomplishing daily networking meant picking up the phone, these responses would be a sub-theme. Another sub-theme could be networking by walking around the office, and with examples of what the women did while walking around the office presented. Present examples of what the women said on the phone after describing the sub-theme in chapter four.

#### *Add Outliers.*

An *outlier* is a response that one or *a few* of the respondents in the research study stated (Sproull, 2004). For example, if 2 out of 25 women responded that they did nothing different from their male counterparts to break the CEO glass-ceiling this should be reported as an outlier with examples of exactly what the women said to back up the response.

Outliers can be an indication of a significant theme the researcher often has a hard time noticing but the dissertation mentor can help the researcher become aware that the *opposite response of the majority of the responses can be significant* (Yin, 1993). For

example, if four out of 20 participants in a research study about how many participants in the FBI said they used FBI provided computers to catch criminals this results would not be a significant theme. However, the *same response* means that 16 out of the 20 participants are *not* using a government issued computer despite to catch criminals. Report these results as a major pattern and not an outlier.

Should all outliers be included in chapter four? The answer depends on the design and the number of outliers included outnumbers the patterns, then the researcher should choose the most significance outliers that relate to the problem statement and purpose.

*Summarize Themes; Add Examples and Tables, Code Names.*

Under each theme and sub-theme, the researcher describes the pattern and adds counts or percentages in a narrative format (Creswell, 2004). After the pattern is explained, being careful to code the participants names such as R1 (respondent one), or W1 (women one), examples of some of the responses is typically included after the pattern summary. If the counts are not extensive for a table that is short enough to include in chapter four, the researcher may include a table. If the table is long, a better practice is to mention the table in the narrative (i.e., see Appendix A) but place the table in an Appendix (American Psychological Association, 2001).

*Add the Summary and Conclusion*

Summarize the major patterns found in a summary. No new information or analysis should be included; the goal of the summary is to sum up for the reader in one to two paragraphs of the results of the research study findings (Creswell, 2004). Add a conclusion that makes the transition of chapter four to chapter five topics.

## Chapter Four – Quantitative Version

Chapter four of a quantitative design is typically shorter than a qualitative design, averaging 15-25 pages in length because the findings are results of statistical tests instead of lengthy narratives. Following the introductory paragraph where the researcher reminds the reader of the purpose statement, the purpose of chapter four presents the findings. Simon (2006) recommends that the researcher include a section on the data demographics such as explaining the age, gender, or relevant related information on the population. Narrative a summary of the demographics and if the table is concise, present in a table format after the narration, otherwise the table is included as an Appendix (i.e., Appendix A) and referred to in the body of the narrative chapter four (American Psychological Association, 2001).

### *Quantitative Chapter Four Findings*

#### *Describe Tests and Data Collection Methods.*

Quantitative designs present findings of statistical tests in chapter four. A discussion of what type of tests were chosen and why is presented first to remind the reader. Describe the data collection instrument along with any archival databases consulted. The process of how the researcher collected the data must match what was presented as what the researcher was going to employ in Chapter one's Nature of the Study section, and Chapter three's methodology. A common student error is that what was done in chapter four does not match what the student said was going to be done in the Nature of the Study and Chapter three; this can be a major reason why the Dean will not sign the final dissertation.

*Discuss How Variable Measurement or Control Group Differences.*

Depending on the design, the next section of a quantitative dissertation discusses measurement of variables that tested hypotheses (Sproull, 2004). If the design was a quasi-experiment with a control group, and an experimental group that was given a *treatment*, present the differences in the characteristics of the groups. The inclusion of covariates increases statistical power because covariates accounts for some of the variability that might exist between groups.

Validity and reliability indices are usually established with a test-retest reliability and a Cronbach's alpha coefficients of .700 or higher (Simon, 2006). If the researcher uses an established instrument then instrument testing is not necessary (Sproull, 2004).

*Describe any Pilot Study and any Missing Data.*

If the researcher developed a survey, a common method for testing the validity and accuracy of the survey is a pilot study using the survey with a sub-set of the participants (Sproull, 2004). If the research study employed a pilot study, describe the results and any subsequent survey modification before implementing the survey to the rest of the participants.

If any missing data could not be collected that was outlined in chapter three, include reasons why (Creswell, 2004). For example, one student promised in chapter three that the data collection was interviewing 25 FBI agents. Extreme problems gaining trust and confidence, even with retired FBI agents, made it impossible to interview 25 agents and after many months, the researcher obtained interviews from 20 agents meeting



the minimum UOPhx requirement for a case study. *Note: This section should be included in qualitative designs if applicable.*

*Present the Data in Section titles Related to the Hypothesis*

Present the result of each test in statistical format and with tables and charts in a visual manner using section titles related to *each* hypothesis (Simon, 2006). Colors are not included; APA requires black and white text, figures, and tables so keep this in mind when creating tables and charts to show the results of tests (American Psychological Association, 2001). Create section titles reporting on the result of each hypothesis instead of on the findings of patterns (qualitative).

For inferential statistics, report the test value and p-value. Simon (2006) posits that if the null hypothesis is not rejected, this does *not* lead to the conclusion that no association or differences exist, but instead that the analysis did not detect any association or difference between the variables or groups. Failing to reject the null hypothesis is comparable to a finding of not guilty in a trial (Simon). According to Simon “the defendant is not declared innocent, instead is not enough evidence to be convincing beyond a reasonable doubt so in the case of the judicial system, the defendant is set free” (slide 23).

Assure the reader proper implementation of data collection procedures instruments and procedures were accomplished. Describe the assumptions of each test and indicate how the researcher met each assumption (Creswell, 2004).

Tell the reader the results of testing of the each hypothesis. Below is a table to that is a guide for interpreting the results of hypothesis. Do not make the reader guess the results of the hypothesis!

Table 1

*Interpreting Results of Hypothesis*

<b>P-value</b>	<b>Interpretation</b>
<b>P &lt; 0.01</b>	<b>Very strong evidence against H0</b>
<b>P &lt; 0.05</b>	<b>Moderate evidence against H0</b>
<b>P &lt; 0.10</b>	<b>Suggestive evidence against H0</b>
<b>P &gt; 0.10</b>	<b>Little or no real evidence against H0</b>

Note: Shared with permission (Simon, 2006).

Measures obtained for each variable are reported clearly, following standard procedures. Adjustments or revisions to the use of standardized research instruments are justified, and any effects on the interpretation of findings are clearly described. Data analysis (presentation, interpretation, explanation) is consistent with the research questions or hypotheses, and underlying theoretical and conceptual framework of the study (Simon, 2006, slide 23).

Statements must be including that support or fail to support each hypothesis.

Check for statistical errors and state how the researcher checked for errors.

### *Outliers*

Include any data that were outside the norm resulting from testing (Sproull, 2004).

Show how the data did not fit into the curve (Creswell, 2004).

### *Discuss Validity and Reliability*

Add a section after presenting the results of the tests that discusses how the research handled issues with validity and reliability.

### *Add the Summary and Conclusion*

Summarize the results of the tests for the reader in their order of significance. No new information or analysis should be included; the goal of the summary is to summarize the findings for the reader in one to two paragraphs. Add a conclusion that makes the transition of chapter four to the topics in chapter five.

## Chapter Five – Qualitative and Quantitative Designs

*Chapter five* of a dissertation is often the hardest dissertation chapter for students to write, but if the learner is excited about the findings presented in chapter four, a clear academic passion in chapter five. Chapter five summarizes presented in chapter four, but with a caveat – who cares? Chapter five should report findings in chapter four reporting a knowledge not reported by any other literature. Why do leaders care? Who are the results going to help? What can be done with the information found in the results? Report the importance, meaning, and significance with passion in chapter 4 (Simon, 2006).

### *Introduction*

Start chapter five with an introductory (no section title is used) paragraph. The student should remind the reader of the purpose of the study in chapter five as part of the introduction paragraph, include the research questions, and remind the reader of why the research study was completed.

### *Findings and Interpretations*

The intent of chapter five is to present the findings, implications, and recommendations for subsequent leadership implementation and actions, and to suggest studies for future research based on the result of the research study (Creswell, 2004). In general, chapter five should have the same sub-section titles presented in chapter four to ensure that the flow of chapter five matches chapter four in the findings and interpretations section. A common student mistake is to present an analysis in chapter five that has nothing to do with chapter four's presentation so using the same section titles keeps the student on track.

#### *Qualitative Designs.*

If the research study is qualitative, the conclusions follow the same major theme section titles as in chapter four, summarizing each theme for the reader to remind the reader of the major patterns. An example of a sub-section under findings and interpretations would be (as stated exactly in chapter four) for a qualitative design is:

#### Findings and Interpretations

##### *Theme One: Women Report Preferring Collaborative Leadership*

Compare each theme to literature findings with sources for similarities and differences starting with the most significant theme not found in previous studies and discuss the themes importance of application to leadership. Meanings of any gaps or similarities to literature is critically analyzed and discussed for every theme – what does the findings mean to leaders, and why would society care about the results? Bloom's (1956) highest level of taxonomy – evaluation – should be evident when reading the meanings explained by the researcher for significant findings. A summary of the major findings concludes the findings and interpretations section with a transitional paragraph introducing the recommendations section.

#### *Quantitative Designs.*

If the research study is quantitative, the research questions or hypothesis testing outlines findings and interpretations. Organize the hypothesis by the level of importance in the study (Sproull, 2004).

For every hypothesis, there is a sub-section title explaining the results, making it clear to the reader that findings do not support or are supported the hypothesis. A common mistake is to make the reader guess about the results of the hypothesis testing by analyzing data in chapter four. Describe the results of testing in a concise and clear manner to the reader in chapter five by stating if results supports or fails to support each hypothesis (Sproull, 2004).

Discuss how evidence of lack of statistical errors was found, and predict the results of each hypothesis results to the general population and with what level of error. If a clear picture did not emerge, discuss how the hypothesis could have been poorly phrased, and how the limitations could have affected the results more than originally

indicated (Simon, 2006). Findings should address observed consistencies and inconsistencies and discuss possible alternate interpretations for each hypothesis (Simon). A summary of the major findings concludes the findings and interpretations section with a transitional paragraph introducing the recommendations section.

### Recommendations

Recommendations should follow the same logical flow as the findings and interpretations; presenting each around the major theme or results of testing in the same order (Creswell, 2004). Recommendations are suggestions for actions, how leaders can apply the results of the study, for whom, when, and where. Recommendations state *who* needs to pay attention to the research results, and how the results might be disseminated (Simon, 2006). Relate each recommendation back to the problem. Include a narrative of topics that need closer examination to generate a new round of questions. Be sure to make specific recommendations for leaders in the field and policy makers.

### *Researcher Reflections*

Being careful to employ third person, reflect on researcher's bias, assumptions, experiences, education, and preconceived ideas before the study was completed. Report on how the researcher changed because of the study. Report on any surprises (Simon, 2006).

### Suggestions for Further Research

Suggest areas that the results of the study imply would be useful for future research by other researchers (Creswell, 2004). New doctoral students gain insight on ideas possible dissertation topics by reading the suggestions for further research sections of dissertations, so consider the suggestions for further research section a legacy for

future researchers. Reflect how the study expansion or implementation with different populations. Suggest possible different designs. Do not forget to mention any researcher surprises in the results.

### Summary and Conclusion

Summarize chapter four, making sure the summary does not have new data or analysis. An example of a summary and conclusion of chapter five is:

This qualitative single case study explored the factors that lead to urban high school graduates' career decisions. The theoretical framework proposed that career development was linked to one's social, emotional, and intellectual development over five stages in their life span. The literature implied that external situations influenced career choices. According to the 30 participants interviewed in this study, both sets of influences are determinants that guide career decisions. While themes varied as to individual values, the underlying conclusion of the interview data in this research study is that career choices are made based on career qualifications, knowledge regarding careers, and, accessibility and availability to careers. Leadership visibility and leadership mentors at every career level and in the community, is needed to inspire and attract new leaders.

Chapter 5 concludes this research study. The findings produced six themes that revealed career choice influences; a) school personnel, b) academic preparedness, c) family influences, d) economic influence, e) self-concept, and f) insufficient leadership training. Recommendations invite all community stakeholders to participate in the career development of urban young adults and

further suggest additional research to be conducted on leadership in urban communities (Hill, 2006, p. 124).

As the dissertation mentor, if chapter five is read and the mentor finds lacking a general lack of passion, results are not clearly written to answer the question – who cares – the mentee should re-write chapter five. Readers should notice when reading that researcher was excited about the findings, and the researcher presents a clear evaluation of the significance of findings in relation to current literature, leaders, and society.

### Summary

Sharing an outline of chapter four and five general sections enables dissertation online mentors teach how to write chapter four and five to dissertation students. Gathering and analyzing data should be fun; the student's passion clearly present in the last two chapters of the dissertation. By presenting a general guideline of how to write chapter four and five, the dissertation mentor can reduce some of the fear and stress and increase the student academic passion at the doctoral level.



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