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EdD Dissertation and Case Study Handbook

Introduction

Welcome to the Dissertation and Case Study phases of your doctoral studies here at the University of the Cumberlands. The purpose of this *Dissertation and Case Study Handbook* is to provide you with basic guidelines for writing a course case study/paper, and dissertation. Before beginning our exploration of the writing process, it is helpful to revisit the mission of the EdD program because well-written case studies and dissertations help the program achieve its mission and goals:

The mission of the doctoral program in Educational Leadership is to prepare professional educators to make valuable, cutting-edge contributions in a variety of academic leadership roles and settings. Through their own research, professional activities, public service, and especially through their implementation of the EdD curriculum, the faculty are committed to providing degree candidates the opportunity (1) to deepen their professional knowledge and their understanding of educational theory, (2) to extend their mastery of research and its application to strategic problem-solving, and (3) to strengthen their commitment to professional service and ethical decision-making. Thus, the EdD program seeks to produce graduates with the capacity for critical and creative thinking necessary to meet the complex demands placed on business, education, English, history, math, and psychology departments in higher education (University of the Cumberlands, *EdD Catalog*, 2009, p. 1).

In pursuit of its mission, the EdD curriculum serves the following program goals:

- **Goal 1**: To develop critical and reflective thinking to facilitate institutional problem-solving and school or college improvement.
- **Goal 2**: To nurture effective and ethical professional leadership at the college-, school-, district-, or unit-level.
- **Goal 3**: To strengthen the research, analytical and communication skills necessary for professional decision-making.
Goal 4: To strengthen content knowledge in a specialty area.
Goal 5: To promote public service and ethical leadership in professional and community settings.

Informed by the program’s mission and goals, the *Dissertation and Case Study Handbook* begins with an overview of the research process, including research paradigms. It then moves on to describe ways to locate and cite sources. The Handbook also provides discussions on basic stylistic issues, methods and procedures, analysis, and implications of the research. At the end of the *Handbook*, you will find specific guidelines on the format needed for submitting your manuscript. In the last sections, you will find information about the composition and layout of the front as well as the back matter of the dissertation. A complete outline of the dissertation is presented in Appendix A.

Please note that whereas your case studies/papers and dissertation must use a dispassionate, third person voice, this *Handbook* employs a more conversational first person voice. In other words, the *Handbook* will make good use of “you,” “your,” and “we.” It also presents some words in **bold** font to show their importance. As is shown later, please avoid using bold fonts in your manuscript. In other ways, however, the *Handbook* intends to model the writing style and formatting expected in your dissertation.

*Purpose of Research*

Faculty members are often asked by students: “How should I choose a topic for my paper or dissertation?” This is especially true for dissertation topics. No matter what topics we might suggest students many times want to stay away from **quantitative** projects for a presumably easier **qualitative** study. Dissertation research may be theoretical and expansive or it may take the form of an in-depth case study. While qualitative research has its place, seldom in education
research is one able to find a study in which numbers are not present and in need of analysis. The question then becomes how sophisticated must your analysis be in order to satisfy faculty demands and program expectations? The answer is simple: can you defend your methods and conclusions, and can your study be replicated? Fortunately, you are not writing for a cadre of scholars who may be located anywhere in the known universe; instead, you are asked to defend your work before a committee of dissertation evaluators composed of faculty members working at University of the Cumberlands. It is thus prudent to work closely with your professor or dissertation director and committee members once they have been identified. With their help and guidance, it is quite possible that your research may lead to one or even two publications. In some special cases, your work could lead to a published book. When you can accomplish that task, you have expanded your audience and ability to teach a wider population of students and colleagues. Even if your work is never published, the strategies you use to write your papers and dissertation can be employed time and time again, enriching your body of knowledge while informing and shaping your teaching and leadership skills. Research is the epitome of life-long learning and personal growth.

In the final analysis, there are two basic reasons to conduct research. Whereas a medical doctor is admonished to “heal thy self,” an education doctor is encouraged to “teach thy self.” You will find that “new discoveries” or “insights” made during research will enrich your teaching and leadership experiences while continually reigniting your passion for sharing knowledge.
Nature of Advanced Educational Research

Dissertation Seminar (ELRE 736) describes qualitative and quantitative methods. Suffice it to say that the **quantitative method** is based on scientific realism (logic, reason and a verifiable method of assessment and replication) while the **qualitative approach** appeals to social constructivism, which is a popular perspective embraced in the **humanities** (i.e., English, literature, history, art). The researcher still must use, however, logic, reason, and a verifiable method that can be replicated. A major difference lies in the approach to the study in question.

While the quantitative **paradigm** or school of thought follows a set of steps to study a problem, the other is guided more by an open-ended search for truth in a wide variety of places, which may evolve as the research unfolds. Replication of a qualitative study is made possible by citing sources. If you think about it, the quantitative method more often than not follows a **deductive approach** while the qualitative method relies more on **induction** because this paradigm assumes that humanity is too complex to be reduced to simple explanations, so there is resistance to shrinking problems to fit into simple scientific generalizations. Paradoxically, the researcher that follows a qualitative approach eventually makes generalizations. It is helpful to view the deductive approach as equivalent to making a big assumption or **hypothesis** that then requires you to look for pieces of evidence to test its **validity** or veracity. The qualitative approach is also used in **theoretical research** which weaves or synthesizes ideas and evidence that lead to large conclusions that, if published, will likely be tested by others employing a deductive method.

In some respects, the type of study one pursues is a function of one’s research **philosophy**, hence the concept of paradigm. As such, advocates of qualitative research believe
that they alone look for many variables (factors that play a role in shaping human behavior or learning). The truth is that the quantitative approach too requires the researcher to find and then control for influencing factors and extraneous variables through a well-developed research design. Nevertheless, one must decide to follow an inductive (simple or small pieces of evidence that lead to large assumptions or generalizations) approach or a deductive method (such as hypothesis testing) to study a particular problem. It is helpful for you to identify your philosophy of research. It will lead you to either a quantitative or qualitative study.

Educators often hear colleagues refer to some projects as “action research.” How does action research differ from quantitative or qualitative research? While action research may be quantitative or qualitative, it is a sub-form of applied research, which intends to answer a specific education problem or situation. Action research is highly focused and more restricted in its implications. Action research is hence not designed for large external audiences such as those who read professional journals. Action research is geared more to the needs of local folk such as committees and board members or maybe just the scholar alone. To be valid and reliable, which indicates similar results in subsequent applications of the method, action research needs to have the same rigor and component parts as any applied or theoretical research project: (1) introduction; (2) review of the literature, (3) procedures and methodology, (4) research findings and (5) summary, discussion, and implications Please note that those parts make up the five chapters of a dissertation (see Appendix A for a layout of chapters and subsections).
Selecting a Topic

A dissertation must feature leadership or policy analysis that has direct implications for educational or community decision makers; it cannot be on classroom teaching, curriculum design, or the manner in which instructional technology is used. Response to Intervention (RTI), Professional Learning Communities (PLC), any other form of public school pedagogy, or academic field in which licensure is required for professional, for instance, are legitimate topics for us only if they are addressed in the context of leadership or as policy issues.

The faculty is qualified to supervise studies that apply leadership and policy analysis to a variety of educational or community settings, but the issue of teaching or counseling effectiveness outside of leadership or higher education suggests that we offer a terminal degree in curriculum and instruction, social work, or counseling which the program is not accredited to provide.

Go to the Sources

Students often ask: “how do you cite a quote within a quote”? For example, let us say that you are reading a book that says: According to Jasmine, “guitars made of pine are best” (1999, p. 21). This passage appears in Lucas, (2001, p. 302), but you don’t know how to cite it. I would handle the quote as coming from Jasmine and also give credit to Lucas by writing another sentence that states: Lucas (2001, p. 302) agrees with Jasmine (2001). It takes a little reflection to see that this approach to citing sources is a handy way to build your reference or bibliography page. However, in consideration of strict American Psychological Association (APA) style guidelines, you should use single quotes inside of double quotes. Here is how that approach looks: According to Jasmine (2001, p. 21), “’guitars made of pine are best’” (Lucas, 2001, p. 302). In
either case you need to cite two sources. Because the strict APA approach is cumbersome for some to read through, it is preferable to use the first example in which Lucas and Jasmine are given separate sentences.

Please note that you should look for sources that appear in peer-reviewed publications. Peers are professionals who know the literature in your area of interest. By citing the source in which you found the original source, you have given your work more credibility. Peer reviewed articles and books insure readers that they are reading the most accurate information available. The issue of citing sources is discussed later in the Handbook.

Primary and Secondary Sources

Primary sources are original publications or information sources (i.e., autobiographies, very old books that contain social observations, meeting notes, and papers, census reports, as well as interviews with participants). For example, suppose you are writing about the history of social studies education and you want to know how the field was born. You read in a book published in 1991 that “social studies” was coined at a conference in 1916 to identify elementary forms of social sciences used in the K-12 system, which gave K-12 social studies its unique but affiliated identity. The 1991 publication, a typical textbook, is a secondary source, but if you could get your hands on the papers presented at that conference in which the name was adopted, you would be getting your hands on a primary source.

If you could find the minutes of the 1916 meeting in which the decision was made to name the elementary form of the social sciences “social studies,” you would have the primary source, but what if you found a copy of the minutes recorded verbatim in a secondary
publication? Because we always want to get as close as we can to the original source, you should cite both sources (Ellis, 1991, p. 107; Social Sciences Conference Proceedings, 1916, p. 3). We will look closer at how to cite sources in a later section.

Now let us look at other types of data such as population and economic figures. Are there primary sources for these? Yes, there are indeed. The US Census Bureau and other government agencies publish reports about populations and economic conditions. These sources are closer to the original source than a textbook. The more secondary sources you have that provide the same data and information, the stronger is your position. Of course, you cannot get much stronger than showing the primary information, so if you have data found in Census Reports or Appalachian Regional Commission reports, for instance, you have gone to the primary sources.

Block Quotations

The subject of using block quotations needs to be addressed. Use block quotes when you are citing directly 40 or more words. Here is an example of the use of a block quotation:

The mission of the doctoral program in Educational Leadership is to prepare professional educators to make valuable, cutting-edge contributions in a variety of academic leadership roles and settings. Through their own research, professional activities, public service, and especially through their implementation of the EdD curriculum, the faculty are committed to providing degree candidates the opportunity (1) to deepen their professional knowledge and their understanding of educational theory, (2) to extend their mastery of research and its application to strategic problem-solving, and (3) to strengthen their commitment to professional service and ethical decision-making. Thus, the EdD program seeks to produce graduates with the capacity for critical and creative thinking necessary to meet the complex demands placed on business, education, English, history, math, and psychology departments in higher education (EdD Handbook, 2009, p. 2).
Now let us turn our attention to using someone’s pictures, illustrations, and maps. If you intend to use someone’s artistic work, you must secure written permission from the copyright holder to use it in your dissertation. A copy of the letter should be placed in the Appendices.

Building a Literature Review and Research Questions

The first piece of the dissertation to be written is not Chapter One. Chapter Two, the Literature review, is actually written first. One misconception that many students of research have is that a literature review (or lit review for short) is just a hoop to jump through on the way to writing a dissertation. It is in fact the basis for identifying hypotheses statements or research questions, which are described in Chapter One. How else could you get an education on what has been determined about a problem or situation? Personal observations and experiences are nice, but they may not be consistent with others’ perspectives. A well-written review of the literature tells readers that you have sufficient knowledge to present a hypothesis. A great place to start building Chapter Two is to find recently published books and journal articles on the subject. Keep in mind that a book takes up to two years to actually be printed. A book that came out in 2008 would not likely contain many sources newer than 2006. If you want to see a synopsis of what writers have stated on the subject up to 2006-07, it is a great source, but if you want to find the latest sources, it is limited to the time period in which the book was written. As a general rule, recently published journal articles are more up-to-date than books. However, books often provide greater depth to the subject in question than is the case with articles. It is perhaps more important to pay attention to which sources are cited the most, especially if they are older than five years. Repetitive citations are a good sign that these are seminal or important sources that provide a theoretical foundation for what was published after them.
Researchers can use several online sources to find sources. JSTOR, Google Scholar, and World Cat (www.worldcat.org) are great sources. You can go to Google Scholar at this address: www.googlescholar.com. The University has a number of other means to help you secure documents and books, including through interlibrary loan.

Formatting the Manuscript

Let us assume that you are working on a dissertation that deals with how fine arts education can increase students’ academic performance in a host of other courses. If you think of the literature review as a large essay describing what has been written lately on the subject of the relationship between a student’s exposure to the arts and his/her overall academic development, then you are on your way to writing a good lit review, especially if you write the essay from broad to specific sub-topics. The same approach would apply if your topic is middle school or college discipline issues.

After you have read the material, think about how it can be divided into its sub-parts (i.e., art and cognitive processing, or music and social expression, etc). Once you have done this, line the sub-parts up into logically connected sections and give them a sub-heading (i.e. art and cognitive processing and music and social expression).

A section’s APA level, which will be shown shortly, is determined by its relationship to the preceding and succeeding sections. Is the section in question separate and equal to the adjoining sections (before and after)? If so, then use the same level (such as italics) for the subheading. In the example above, clearly art and cognitive processing and music and social
expression are two different topics that are of equal importance, so you would assign them the same level.

Level selection is mostly based on the preceding section. The same level means that the sections (both preceding and present) are separate and equal in importance to the overall project. On the other hand, let us say that that we have a section called “factors affecting cognitive processing.” Art, then, would form a sub-section and would thus be assigned a lower level than factors affecting cognitive processing. We will take a specific look at this example shortly, but, for now, let us return briefly to a general discussion on APA formatting.

In a nutshell, APA style uses sub-headings to help the reader easily understand the organization of your paper. These headings are arranged in a hierarchy, with the same heading levels applying to topics of equal importance. The subheadings also follow your thesis map which should be written in the introductory section of each chapter. The thesis map shows the reader the sections of the chapter that support your thesis statement or main idea.

The format or look of your sub-headings depends on how many levels of subheadings you have in the chapter. Most chapters will only use two or three levels of headings. Four and five levels are typically used for papers describing multiple experiments. In either case, format the entire chapter as indicated below:
Chapter Two (One level)

Review of the Literature (Centered Uppercase and Lowercase Heading)

Chapter Two (Two levels)

Review of the Literature (Centered Uppercase and Lowercase Heading)

Flush Left, Italicized, Uppercase and Lowercase Heading

Chapter Two (Three Levels)

Review of the Literature (Centered Uppercase and Lowercase Heading)

Flush Left, Italicized, Uppercase and Lowercase Heading

Indented, italicized, lowercase paragraph heading, ending with a period, with following text starting on the same line.

Chapter Two (Four levels)

Review of the Literature (Centered Uppercase and Lowercase Heading)

Centered, Italicized, Uppercase and Lowercase Heading

Flush Left, Italicized, Uppercase and Lowercase Heading
CHAPTER TWO (Five levels)

REVIEW OF THE LITERATURE (CENTERED UPPERCASE HEADING)

Centered Uppercase and Lowercase Heading

Centered, Italicized, Uppercase and Lowercase Heading

Flush Left, Italicized, Uppercase and Lowercase Heading

Indent, italicized, lowercase paragraph heading, ending with a period, with following text starting on the same line.

As a reminder, please note that the formatting of sub-headings is determined by the number of headings and their relationship to each other. Also note that the first section of all chapters should be labeled Introduction, except for Chapter One (Introduction). Its introduction should be titled “Overview.” The next sub-heading used after that section is assigned the next highest level of heading (usually Flush Left, Italicized, Uppercase and Lowercase Heading). Note that you must use Times New Roman 12 font. Double space the lines. Note that Chapter One and Introduction have one double-spaced line between them. There are three double space lines between Introduction and Overview. Upon completing a subsection, there should be two double-spaced lines between that section and the next subtitle. There is only one double-spaced line between the subtitle and its text. On the following pages are formatting examples:
Chapter One (Example)

Introduction

Because reading empowers people to learn throughout their lives, it is one of the most important skills that students will ever learn (Blamey, Albert, & Dorrell, 2008; Justice, Kaderavek, Fan, Sofka, & Hunt, 2009; Kotaman, 2008; Lutz, Guthrie, & Davis, 2006; Wanzek, Vaughn, Kim, & Cavanaugh, 2006). Research on reading has produced a sizable body of literature on students who have difficulties learning the skill. These studies have yielded intervention programs such as Reading Recovery (RR) (Reynolds & Wheldall, 2007; Stinnett, 2009) and Response to Intervention (RtI) (Stinnett, 2009). Results from these studies suggest that special education costs decline significantly if students participate in these intervention programs (Stinnett, 2009); however, because of the wide range of materials that could be read as well as the various types of learning disabilities that plague humanity, more research is warranted in the effectiveness of reading instruction and interventions.

Although research on reading is abundant, few studies are found that address reading skills in the context of rural Appalachian adults and children as well as their attitudes toward literacy. The National Center for Education Statistics (2003) reported that Kentucky’s overall illiteracy rate was 12 percent and rural areas in southeastern Kentucky have illiteracy rates that range from 16 to 21 percent. To help clarify some of the issues affecting literacy in southeastern
Kentucky, they are discussed in Chapter Two. That chapter also provides a summary of the major findings of reading research as well as support for the importance of parental involvement in children’s reading. Chapter Three discusses the methodology that was used to identify parental attitudes toward literacy. Chapters Four and Five provide an analysis of the data generated in the study as well as their implications. Appendices and an extensive reference list conclude the study.

Background

The study provides information on rural students’ and parents’ literacy attitudes and experiences. Research was conducted among the parents of fourth and fifth grade students enrolled in three rural Kentucky counties: Clay, Jackson, and Owsley. Approximately 250 parents participated in the study.

Summary

It is also important to note that each chapter has a summary section. It is most often centered. Here is an example of a layout for a review of literature:
Chapter Two (Example)

Review of the Literature

Introduction

Begin writing here….

Teaching College Art

Begin writing here. …

Teaching College Music

Begin writing here….

Summary

One could easily add another level to the previous example. Suppose you are interested in differentiating sculpture and painting as art forms. The chapter would be formatted thusly:
Chapter Two

Review of the Literature

Introduction

Teaching College Art

Teaching sculpturing. Begin text here….

Teaching painting. Begin text here….

Teaching College Music

Summary

The same steps could be taken to add subsections to teaching college music. We are now ready to leave behind the discussion on formatting and the use of APA subheadings. The next section shows some effective pointers for research writing.
Pointers for Effective Formatting, Writing, and Submission

English classes often focus on writing entertaining and descriptive sentences. These kinds of sentences require ample use of adjectives and adverbs. Research writing, on the other hand, sheds itself of color and **hyperbole**—the use of exaggerations to stress a point. We cringe at the use of words like “never,” “always,” “very,” “totally,” and “everyone” because while there are laws that govern forces in the natural world, there are virtually none found among humans in the social and cultural worlds that we create. Here are some more basic points to remember:

- Use third person voice. Do not use “I,” “we,” or “our.” Write statements like “The researcher observed eight students eating before the lecture.”

- Do not indent the first sentence of a new subsection. The first line of each paragraph that follows in the subsection is indented, however.

- Double space after periods.

- Single space after colons and semicolons

- Write shorter sentences for clarity. Consider which is best:

  Example A. “The study, using a casual-comparative design, examined the relationship between gender and ethnicity with respect to students’ perceptions of deterrents to college completion as revealed in graduation rates.”

  Example B: “A study was conducted on college graduation rates. The research considered gender and ethnicity as factors affecting students’ attitudes toward program completion. Data collected in the study were evaluated using a causal-comparative design.”
• Question: Is example A or B better for the reader? We hope you answered B.

• Write each paragraph like it is a mini essay. Start it with a topic sentence (introduction) and end it with a summary or transition sentence that leads into the next paragraph.

• Do not use bold letters for any reason, including subheadings. The APA format shows the subsection’s relationship to the chapter, so you do not need bold letters to show importance.

• Spell the word percent.

• Spell out numbers smaller than 10, unless it is a name or begins a sentence.

• Avoid using words like “very,” “always,” “never,” “everyone,” “no one,” or “totally.”

• Do not leave orphans and widows at the bottom of a page. These take the form of a single line that starts a paragraph or a lone subheading.

• Place page numbers in the bottom right hand corner (footer) (This is stylistic departure from APA).

• Place your last name in the upper left corner or header.

• Place the running head or short title in the upper right corner or header.

• Use single-spaced lines in the Reference section, but double space between source entries. Indent all but the first line of the citation.

Now that we have looked at pointers for making sure you clearly communicate information in the review of the literature, we ask that you apply the same guidelines throughout the five
chapter project. When you are ready to present the entire manuscript, please submit six copies typed or printed on quality paper to your dissertation director. With respect to the final submission only, set margins thusly: one and a half inches on the left and one inch on the other sides. The extra half inch on the left accounts for binding.

Let us now turn our attention to formatting the remaining chapters, references, and appendices.
Chapter Three (Example)

Methods and Procedures

Introduction

Chapter Three is the procedures and methods section of your study. It logically proceeds from Chapter Two, the Literature Review. A major point to consider here is the question: did your review of the literature review show that further investigation is warranted? Can you therefore develop a hypothesis or educated guess from your review of the literature? Can you write a procedure to test your hypothesis? Can someone interested in your study follow or replicate your work? If you can answer yes to all of those questions, chapter three will be a snap to write.

In many respects this is the fun chapter to write because it allows you to show your creativity in setting up a test of your insight(s) otherwise known as the hypothesis. The chapter is divided into the following sections: introduction, research paradigm, research design, data collection and sources, and statistical tests discussion. There should also be a reference to a letter to the Ethics or HRB/IRB Committee (placed in the Appendices) to show that participants were informed of the consequences, if any, of participating in the study. It should also demonstrate to the participant that his or her participation is voluntary and confidential or otherwise anonymous.
Chapter Four (Example)

Research Findings

Introduction

Chapter Four contains analyses of the research findings. The chapter includes answers to each research question or hypothesis statement. There may also be a supplementary section in which unexpected insights were detected. The chapter concludes with a summary called “Review of the Findings.” It is perhaps best to think of this chapter as a venue for discussing the statistical significance of the findings. As is seen in the next section, Chapter Five provides you with an opportunity to explain the practical significance of the results. Before we proceed to that important discussion, let us explore ways to report the results of inferential statistics tests commonly used in educational research (t-tests, ANOVA, chi square, Spearman’s rs, and correlations). In the first example, Dr. Anita Coffee (UC, 2011) compared pre-test scores in phonics, a topic of special interest to primary school teachers. She correctly used an independent samples t-test to compare differences between two independent groups. In the event that she wanted to compare differences, if any, between pre- and post-test scores within one group, she would have used a correlated samples (matched pairs) t-test. Note that block quoting is used in some of the following examples, which is required for direct quotes that exceed 50 words.

*Flex and Homeroom Group findings for Pre-Test in Phonics*

Independent samples t-test was used to compare data generated by rotating Flex grouping and Homeroom grouping on a pre-test in phonics (see Table 1). Data in Table 1 show that there was a significant difference between the groups at the beginning of the study.
The results of the \( t \)-test shows that homeroom or experimental grouping (\( N = 17 \)) displayed a higher rate of achievement (\( M = 80.4 \)) than their counterparts who rotated classes for Flex phonics instruction (\( M = 67.9 \)), \( t [16] = 2.11, p < 0.01 \).

Table 1: \( t \)-test Two-Sample Assuming Equal Variances in Flex and Homeroom Grouping on Pre-Test for Phonics

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>67.88235</td>
<td>80.3529412</td>
</tr>
<tr>
<td>Variance</td>
<td>297.8603</td>
<td>387.242647</td>
</tr>
<tr>
<td>Observations</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.495347</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Df</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>( t ) Stat</td>
<td>-2.75374</td>
<td></td>
</tr>
<tr>
<td>( P(T \leq t) ) one-tail</td>
<td>0.007063</td>
<td></td>
</tr>
<tr>
<td>( t ) Critical one-tail</td>
<td>1.745884</td>
<td></td>
</tr>
<tr>
<td>( P(T \leq t) ) two-tail</td>
<td>0.014125</td>
<td></td>
</tr>
<tr>
<td>( t ) Critical two-tail</td>
<td>2.119905</td>
<td></td>
</tr>
</tbody>
</table>

It is important to note that “\( N \)” equals the number of pairs of data considered in the study; “\( M \)” is the mean for a group; and “16” represents the degrees of freedom.

Next, we turn our attention to analysis of variance (ANOVA). A one-way ANOVA performs like a \( t \)-test in that it compares differences among means. Whereas a \( t \)-test is used to compare two sets of data, ANOVA is used to compare more than two sets of data, typically three or four. If a researcher is interested in measuring possible differences among means produced by three groups of students, a one way ANOVA is good choice. On the other hand, if one is interested in seeing if gender makes a difference among the three groups, the independent variable (mean examination scores) would have two levels (male and female). This kind of investigation calls for a two-way or factorial ANOVA. In either case, the results would be reported in the manner used by Vann (1996, p. 148):
An ANOVA was conducted on the groups’ educational data. The test is summarized in Table 4. The test supported the notion (aka hypothesis) that there was a difference between the groups’ educational levels \(F[3, 218] = 10.17, p < .01\). To determine which pairs of means were different, a modified Tukey’s HSD test, which corrects for unequal subsample Ns, was conducted (Spatz and Johnston, 1989). After comparing the means of group one \((M = 11.87)\) and group two \((M = 10.95)\) and finding a significant difference \((HSD[218] = 3.69, p < .05)\), comparisons of the remaining pairs were made, and no differences were measured.

Table 4. Summary of ANOVA for Groups’

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3</td>
<td>67.71</td>
<td>22.57</td>
<td>10.17</td>
</tr>
<tr>
<td>Within Groups</td>
<td>218</td>
<td>483.15</td>
<td>2.22</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>221</td>
<td>550.86</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As with the \(t\)-test shown previously, the critical value and the \(p\) value are featured in writing the results of a test.

The last parametric test that will be used to illustrate how to report results is the correlation \(r\). As with Spearman’s \(r_s\), correlations between -1.0 and 1.0 are possible. A correlation of .33, or .66 for that matter, may or may not be significant. Clearly, however, if all variables are constant, an \(r = .33\) shows less of a correlation between continuous variables than an \(r = .66\). In addition to a table showing descriptive statistics, your narrative for a test that produced a significant Pearson Product Moment Correlation should say something like: “The two variables were correlated, \((r[55] = .49, p < .01)\).” The formula \(N-2\) is used to calculate degrees of freedom. However, a regression will provide results of ANOVA in evaluating the significance of the results; in that case the results would be reported as “the two variables were correlated, \((r = .79, F[1, 13] = 22.28, p < .001)\).
Let us now shift our attention to reporting non-parametric tests like Spearman’s $r_s$ and chi square. These tests compare rank orders and frequencies, respectively. Here is an example of reporting a Spearman’s $r_s$ test: “The rank-order comparison suggests that participants in both studies saw time constraints as the most imposing deterrent ($r_s [5] = .90, p < .10$).” The following is an example of how to report a chi square test: “Gender was not a factor in the percentage of gifted students that completed the program, ($\chi^2 [1, N = 90] = 0.89, p > .05$).”

Chapter Four presents the statistical significance of the analyses, but Chapter Five requires you to look at the data and then discuss the practical implications of the findings as well as their implications for future studies.
Chapter Five

Summary, Discussion, and Implications

Introduction

As with the first four chapters, Chapter Five begins with an introduction that contains a thesis statement and thesis map. The headings should follow the thesis map. First, discuss the results the research questions/hypotheses with respect to their “Practical Significance.” You will also add a subsection that identifies some of the “Limitations of the Study.” Another subsection ends the chapter. It is called “Implications of the Findings” (this is tantamount to a summary). In this subsection, you provide other scholars with a “heads up” so to speak about what to consider in any subsequent studies on the topic. More importantly, this chapter places your work and its findings in the body of literature. In other words, how is your work similar to or different from existing studies on the subject? Be sure to emphasize the importance or practical significance of your findings.
References (Example)

Immediately following the body of the thesis, place the references. Please do not call them resources or even a collective bibliography. The section is simply titled “References.” Before we look at the different ways to cite sources in the Reference section, it is important to ask you to avoid, when possible, citing Internet addresses. It is always best to use the actual land or traditional method of citing sources. However, online journals and newsletters are flourishing, so there are obvious exceptions to using Internet-based sources. In the final analysis, the key issue in selecting a source is whether or not it was peer-reviewed. There are many bloggers out there in cyberspace whose thoughts are solely their own and which have not been vetted through a peer review process. Among the more respected and common types of sources used in educational research are books, journal articles and other periodicals, census or government agency reports, and yes, the Internet. These are basic ways to cite sources:

Books. Books can be written by single or multiple authors. They can also be edited works. The following examples follow that order:


Journals. Journals and other periodicals such as magazines and scholarly newsletters are cited thusly:


Online periodical citation. The following example shows how to cite an online journal article:


If the online source does not have a page number, please cite the paragraph number, which you will likely have to count.

These are just a few of the more common ways to cite references. You are certainly encouraged to use the Publication Manual of the American Psychological Association as a source for citing publications not shown in this handbook.
Appendices

Items included in the Appendices are named and given a letter (A, B, C, etc) to further identify them. You should place any survey forms; questionnaires, the Informed Consent document, and the IRB letter in this section (see Appendices at the end of the manual).

Preliminary Pages

**Preliminary Pages** are placed in the beginning of the Dissertation. Like the thesis itself, these pages are also written with Times New Roman 12 Font type. Beginning with the title page, they are numbered with lower case Roman numerals (bottom right). The numbering system switches to 1 etc on the first page of Chapter One:

**Title** all parts are centered and appropriately spaced from each other. Title (all caps); write below the title: A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education; then write below: by your full name followed by abbreviations for prior degrees (i.e., by Gertrude Bridgette Burnside, B.S., M.S.); then further down the page, write the Month and Year, University of the Cumberlands (see Appendix B).

**Signature** has the following parts: Write this statement (flush left, top of page): This Dissertation is approved for recommendation to the faculty and administration of the University of the Cumberlands. The recommendation is then followed by signature lines for the Dissertation Director (type in the Director’s name below the line). The Director’s signature line is followed (flush left) by lines and names (typed under the lines) of each committee member. One member must be from outside the Education Department (see Appendix C).

**Acknowledgement(s)** is where you thank those who have helped you achieve this goal (see Appendix D).
Abstract is 150 words in length. It should succinctly mention the topic, rationale, research paradigm, method, and general findings (see Appendix E).

Dissertation Submission Process

Once the Dissertation Director and Committee have given you permission, you are to:

- Set margins thusly: one and a half inches on the left and one inch on the other sides. The extra space in the left margin allows for binding.
- Submit three copies typed or printed on 100 percent cotton rag to your dissertation director.

Handbook Summary

This Dissertation manual, which closely follows APA stylistic guidelines, was assembled to help you write, prepare, and defend your research project as a capstone experience in your educational career. You are encouraged to refer to the manual periodically as the need arises. While the manual is a useful tool in shaping your project for the consumption of others, its value pales in comparison to the thoughts, ideas, and insights that your writing represents. May God bless you and your work!

Barry Aron Vann
Corbin, Kentucky
Williamsburg, Kentucky

October 27, 2011
Handbook Appendices
Appendix A

Thesis Structure: Chapter and Subsection Layout

Your final research proposal should flow in the following manner:

Preliminary Pages:
Title Page

Abstract Page (limit it to 150 words; it should show the study’s purpose and statistical results)

Chapter One (Introduction)

**Overview

**Background and Problem Statement

**Purpose of the Study

**Research Questions or Questions to be Answered (Hypotheses Statements)

**Limitations of the Study

**Assumptions

**Definitions

**Summary
Chapter Two (Review of Literature)

**Introduction to the Chapter

**An Integrated Analysis on the Literature of the Selected Topic

**Extrapolated Themes from the Literature connect to the Background and Problem Statement as well as the Research Questions. This chapter should follow a deductive approach that leads the reader to a logical association between the body of literature and the research questions asked in the study.

**Summary

Chapter Three (Procedures and Methodology)

**Introduction

**Research Paradigm (qualitative or quantitative)

**Research Design(s)

**Sampling Procedures and or/

**Data Collection Sources (reference Informed Consent document placed in Appendices)

**Data Analysis Techniques or Statistical Tests

**Summary
Chapter Four (Research Findings)

**Introduction**

**Analyses of research questions or hypotheses statements (one at a time)**

**Supplementary Findings (if any)**

**Summary or Review of the Findings**

Chapter Five (Summary, Discussion, and Implications)

**Introduction**

**Provide practical assessment for each research question or hypothesis statement**

**Limitations of the Study**

**Implications for Future Study**

**Summary**

Reference Page in APA Format

Appendices – This section contains any tables, figures and possible data sources that could not be placed in the text of the paper due to its size, as well as copies of consent forms and IRB letters.
Appendix B

Title Page Layout

INTERPERSONNEL FACTORS AFFECTING PROGRAM ASSESSMENTS IN AN APPALACHIAN COLLEGE HISTORY DEPARTMENT

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education (Ed.D.)

By

Gertrude Bridgette Burnside, B.S., M.S

May 2010
University of the Cumberlands
Appendix C

Signature Page Layout

This Dissertation is approved for recommendation to the faculty and administration of the University of the Cumberlands

Dissertation Director:

___________________
Dr. Jimmy J. Atkinson

Dissertation Evaluators:

___________________
Dr. Corrine Jacob

___________________
Dr. Gordon G. Cooper
Appendix D

Acknowledgements

There are many to whom a debt of gratitude is owed for their assistance in conducting this research…. (It is appropriate to thank key faculty, friends, and family members, as well as ministers and God. It is advisable to limit the comments to one page)
Appendix E

Table of Contents

Chapter One

Introduction 1
Background X
Follow chapter and subheadings X
References X
Appendix A X
Appendix B X

On the page after the Table of Contents, place the List of Tables. It follows the same pattern as the Table of Contents. Finally, on the next page place the List of Figures. The List of Figures is formatted in the same fashion.