

Columbia Seminary and School of Ministries

Doctor of Ministry Degree

**DISSERTATION-PROJECT MANUAL**

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## **Chapter 1: THE DOCTOR OF MINISTRY DEGREE AND RESEARCH**

So, you've begun to think about the dissertation-project that is part of your Doctor of Ministry studies. The dissertation phase of the program typically generates the most anxiety among D.Min. students and it is true that across D.Min. programs nationally, a majority of students who fail to complete their degree are A.B.D.—All But Dissertation. You should know, however, that CIU's D.Min. program has a much higher than average percentage of students who complete their dissertation and receive their degree. You also should know that the dissertation phase of the D.Min. probably will be both the most demanding and the most rewarding work encountered in your academic career. In designing, researching, and writing a dissertation, you will develop understandings, skills, and disciplines previously unattained. Research is essential to doctoral studies and to doctoral levels of effectiveness in ministry. This chapter provides a basic introduction to the role of research in the D.Min. program at CIU.

### **The Doctor Of Ministry Degree**

The doctoral degree is the highest academic award granted by Western colleges and universities. Doctoral studies take two forms, the research doctorate and the professional doctorate. The research doctorate is designed to develop the research skills of the scholar, whether the discipline field is philosophy, history, or one of the sciences. The focus of the research doctorate is the advancement of knowledge, thus the degree is awarded for "pure" or academic research. The degree typically awarded by universities offering research doctorates is the Doctor of Philosophy (Ph.D.). A research doctorate in theology leads to the Th.D. degree.

Doctoral recognition in professional fields may pursue "pure" research interests and lead to a Ph.D. degree, or may focus on applied research designed to enhance the practice of the profession. Doctoral programs focused on applied research—i.e., professional doctorates—may lead to the Juris Doctor (J.D.), Medicinae Doctor (M.D.), Doctor of Education (Ed.D), Doctor of Business Administration (D.B.A.), or another degree appropriate to the professional discipline.

While the Doctor of Theology (Th.D.) has a long and well-established history, the Doctor of Ministry (D.Min.) was first awarded in 1964 and was first recognized by the Association of Theological Schools in the United States and Canada (ATS) in 1970. As a professional doctorate, the focus of D.Min. study and research is the practice of ministry. Due to its brief history, more variation currently exists among D.Min. programs than among Th.D. programs.

It is important to note that the distinction between research and professional doctoral programs is the focus of study and research, rather than their rigor. The standard of doctoral education is the same, whether the focus is "pure" research—i.e., research primarily of academic interest—or applied research.

### **The Nature Of D.Min. Research**

It is helpful to bear in mind that research is disciplined inquiry. Both aspects of this definition are important. Research is first and foremost inquiry; it always involves asking and answering questions. This bears important implications for those seeking to identify a research topic. It means, for instance, that a topic framed in the form "To prove that...", or "To show that...", is not appropriate as research. Valid topics, by contrast, may be framed "To learn what...", "To observe how...", "To evaluate..." etc. A reliable way to test the appropriateness of a prospective research topic is to express it in interrogative form. The interrogative form clearly belies the intent of

the topic, whether to inquire or to build a case for a previously espoused position. Topics intent on inquiry may constitute valid research projects; those with other intents never will.

As inquiry, research is disciplined by logical and empirical consistency. The rigor of any research design is tested logically. The logic of well designed research forms a seamless whole, from the statement of the problem, through the methods employed, to the conclusions derived. When a research design lacks logical rigor, the research is vulnerable to alternative explanations (i.e., "rival hypotheses") which detract from--and may destroy--the usefulness of findings and conclusions. The researcher is responsible to design the research with such care that rival hypotheses are precluded, or are incorporated into the research design.

Since Doctor of Ministry education focuses the practice of ministry, it is appropriate that this program of study should culminate in the dissertation-project. The dissertation-project is so named because it combines a dual focus on research and ministry practice. Indeed, a D.Min. dissertation-project will engage the student in research directly applied to the student's present or prospective ministry.

Students who emphasize the term "project" in conceptualizing their task, often submit proposals which describe valid and worthwhile endeavors, but fail to qualify as research. Typical of this group would be a proposal to develop a curriculum, plan a preaching schedule, or develop a church planting strategy for a specific community. What these projects lack is field (or ministry) involvement. Each constitutes one element of an appropriate dissertation-project exercise, but must be expanded to include specific engagement in ministry. The curriculum must be field tested with a sample population; the preaching schedule must be implemented and evaluated on the basis of pre-established criteria; the church planting strategy must be grounded in an ethnographic study of the target community.

The dissertation-project submitted will be a carefully written document with a text at least 125 and no more than 200 pages in length. The document will describe the nature of the problem explored, the methodology employed, the research findings, and the conclusions reached. The dissertation-project will reflect careful scholarship, including perceptive observation and incisive critique, grounded in a thorough acquaintance with the primary and cognate discipline fields.

Yet the dissertation-project is more than a formal research paper, just as the Doctor of Ministry program is different from studies toward a research doctorate. As doctor of ministry education seeks to focus theological reflection on the practice of ministry, so the dissertation-project brings theological reflection to bear on the findings of research for the enhancement of ministry practice. The student, therefore, will not offer detached analysis of a sterile, academic issue, but will deal carefully and reflectively with matters vitally relevant to the practice of ministry. At CIU, the dissertation-project is expected to demonstrate how biblical theology illuminates and critiques ministry practice. Since biblically illuminated research always has significance beyond the local context of the researcher, the dissertation-project will include implications and recommendations for other ministry settings.

## **Approaches To Research**

Formal research, from the Enlightenment through the mid-20<sup>th</sup> century was guided by Modernist values and assumptions. Reality is stable and is measurable, observation can be pursued with detachment, and truth is rational and is discernable through disciplined observation and reason. This led to an approach to research which seeks to express reality as numbers which can be analyzed statistically. Appropriately, this approach is known as **Quantitative Research**. In quantitative research, data are numerical, analysis is statistical, and methods are objective. Replicability is an important aspect of research design since findings are verified when replicated by other researchers. Most scientific advances are the fruit of quantitative research and quantitative assumptions continue to dominate research in the natural sciences.

With increasing attention to human issues in the social sciences and the rise of the post-modern critique of Modernist assumptions, an alternative approach to research was proposed. The variable nature of human relationships and social structures, as well as divergent views of truth and morals led to abandonment of absolutist under-

standings of reality central to the Modernist project and to quantitative research. Constructionist epistemologies precluded any assumption of an unbiased observer. From numerical precision, attention was redirected to qualities present in the environment, in human interactions, and in individual constructions of “truth” and “reality.” It also is appropriate that this approach is known as **Qualitative Research**. In qualitative research, natural settings are respected, processes and relationships, not only quantifiable variables, are of interest, data are verbal, analysis employs interpretative methods, and findings typically are not replicable. Qualitative research assumptions and methods are widely embraced within the social sciences.

Research in ministry rarely is purely either quantitative or qualitative; most research in ministry employs a **Mixed Methods Approach**. This name is misleading, however, since the differences between quantitative and qualitative research are less methodological than philosophical. It is no more necessary to embrace the naturalistic assumptions often associated with quantitative research than to subscribe to the epistemological relativism that underlies much current qualitative research. Truth and reality are grounded in the person of God himself. The world God created can be objectively observed, as evidenced by the concurrence of multiple observers. Yet, humans and human society hold value that extends beyond the natural specifically because God created men and women in his own image. Research is possible and profitable because the universe God created is rationally structured; attention to social contexts and human choices is appropriate because of the *imago dei*. It should be noted, furthermore, that very few research methods are solely quantitative or qualitative, grounded theory research being the principal exception.

## Types Of Research Design

In order to pursue research in ministry effectively, it is useful to discriminate various types, or genre, of research design. Recognizing the design of research appropriate to a project affords guidance in the selection of research methods. It is helpful to discriminate four discrete types of research design.

**Bibliographic Research**--Sometimes referred to as "library research," bibliographic research entails the study of texts and records. Exegetical research, studies of the Biblical text, theological inquiries, and historical studies are examples of bibliographic research. In each case, the researcher engages the text of Scripture or records of chroniclers or theologians, as well as the works of other scholars, previous and contemporary. The purpose of bibliographic research is to clarify meaning and to derive guidance for life and ministry. While every dissertation-project will incorporate bibliographic research, none will be exclusively bibliographic.

**Descriptive Research**--Whereas bibliographic research engages texts, descriptive research typically engages human experience. Because experience most commonly is observed outside libraries and laboratories, descriptive research sometimes is termed "field research." Surveys (both interview and questionnaire), case studies, and ethnographies are examples of descriptive research. The purpose of descriptive research is to order experience—i.e., to “make sense” of human, social, organizational, and ministry realities—and to formulate theory—i.e., to discern suggest constructive ways of relating and ministering. Many dissertation-projects are descriptive studies.

**Evaluative Research**--Like descriptive research, evaluative research engages human experience. Unlike descriptive research, however, evaluative research always has a pragmatic focus. Evaluative research seeks to inform decision making. Depending on the stage of the program or materials in view, preformative evaluation ("Should this program be implemented?"), formative evaluation ("How can this program be adjusted to enhance effectiveness?"), or summative evaluation ("To what extent did this program attain intended effects?") may be indicated. Although evaluative research commonly is applied to programs and curricula, evaluation may be applied to any aspect of ministry. Evaluative studies are very appropriate dissertation-projects.

**Experimental Research**--Descriptive research may identify specific order or relationships within the systems observed, but limitations inherent in descriptive designs preclude generalization of conclusions beyond those systems. Experimental research subjects theories, derived from descriptive studies, to carefully controlled tests. Typically, experimental studies seek to falsify theory by posing hypotheses which are tested in the negative

(or "null") form. Because of the rigorous design constraints associated with experimental research, and because of the theoretical focus of these studies, D.Min. research is not amenable to experimental designs.

## Assessing Research

The value of any research is dependent upon the appropriateness of the research methodology and implementation and upon the significance of research findings.

**Methodological appropriateness** is determined by the nature of the research problem, the population or subjects studied, the researcher's access to required data and sources, and the comprehensiveness of the research design. The research method selected must be appropriate to the problem addressed. Similarly, a method appropriate for use with a large population rarely would be best for use with a small population or population sample. Any method that requires data unattainable by the researcher is inappropriate, even if those data exist and could be accessed by another researcher. Thus, researchers do well to consider their own, possibly unique, access to data when selecting a research problem and research methods. Finally, an appropriate research method will be comprehensive in scope; every facet of the problem will be thoroughly investigated and documented.

Methodological appropriateness can be nullified, however, if methods are not implemented appropriately. The best research design can be undone by careless data collection. This is especially critical when research assistants are employed to collect or tabulate data. In such cases, a careful plan for training research assistants should be included in the dissertation proposal.

Methodological appropriateness is urgent because laxity opens findings to the threat of rival hypotheses. A rival hypothesis is an alternative interpretation of the research data that may be proposed by another researcher. Since the rival hypothesis challenges the stated conclusions, the entire research project is thrown into question. The only protection against rival hypotheses is careful research design and implementation. Careful design and implementation is essential to the integrity and value of the dissertation.

The **significance of research findings** also determine the value of the research. The significance of findings is judged by their generalizability, insightfulness, replicability or verifiability, methodological rigor, and robustness. Research findings that have broad application in a variety of ministry settings—i.e., that are generalizable—clearly are more valuable than those that are useful only in a specific ministry context. Projects that have specific application may be important to one's own ministry but they are not appropriate dissertation research.

Excellent dissertation research affords insight on complex ministry issues, pointing toward courses of action that address challenges and remove barriers to ministry. Because research methods are thoroughly described and rigorously implemented, excellent dissertation research can be replicated or verified by other researchers, thus establishing both the credibility of the researcher and the validity of research findings. Research is "robust" when its conclusions remain credible under sustained scrutiny of underlying assumptions and methods. Researchers should strive to design and conduct their work so that their dissertations reflect all of these qualities.

## **Chapter 2: THE D.Min. DISSERTATION**

The dissertation is the culmination of one's doctoral program. It is the most demanding and the most rewarding project in one's academic career. It both stretches and demonstrates the researcher's grasp of her or his discipline, while contributing to the understanding of a facet of ministry within the profession. This chapter describes the structure of the dissertation and its major parts.

### **The Structure Of A Dissertation-Project: The Five Chapter Approach**

Dissertation research commonly is reported in five chapters:

- Chapter 1 -- Statement of the Problem
- Chapter 2 -- Precedent Research
- Chapter 3 -- Research Methodology
- Chapter 4 -- Findings
- Chapter 5 -- Conclusions and Recommendations

An expansion of this outline appears in Appendix B of this *Manual*. The outline provides a logical progression for describing the project, reporting the research findings, and discussing conclusions of the study.

For some dissertation-projects, this outline will need to be supplemented with one or more additional chapters. An evaluation study, for example, may require a chapter devoted to the history of the institution or program under review. Some topics may require a chapter-length development of Biblical or theological themes on which the study is built. In most cases these chapters fit best between chapters 1 and 2 in the five-chapter outline.

Because Doctor of Ministry research entails theological reflection on the practice of ministry, the student must be careful to incorporate such reflection into the research design. Sometimes the background or context of the research problem demands Biblical and theological reflection, but more commonly the student will reflect theologically on the significance of the research findings for ministry practice. Whether in Chapter 1 or in Chapter 5, each dissertation-project must include substantive reflection.

### **Characteristics Of A Good Research Topic**

Selection of the research topic is critical to development of a significant dissertation-project. Students are advised to check possible topics against the following criteria. A good research topic should be:

- 1) Directly related to the student's present or prospective ministry;
- 2) Contributes to the practice of ministry as judged by professional standards;
- 3) Potential application in other contexts of ministry;
- 4) Clearly and precisely stated;
- 5) Accessible to examination;
- 6) Well conceived—constructs are definable and researchable;

- 7) Appropriately delimited;
- 8) Simple—focused on one problem only; and
- 9) Do-able, able to be completed within the allotted time frame.

Any and all of these criteria are subject to violation. A topic inaccessible to examination might require collection of data which are available only at a remote location or only from an institution which is hostile toward the research. The central concepts which the research intends to investigate are termed "constructs"; each construct must be defined in a way which renders it subject to observation. Topics which either exceed the reach of the researcher or focus issues that do not merit dissertation-length consideration are inappropriately delimited. The topic may be significant, but the topic needs to be restated to adjust the scope of the study.

As suggested above, it is useful, when framing a dissertation-project topic, to state it first as a question to be answered. When refined, however, the topic should be restated in the form of a title of the proposed dissertation. Students are strongly advised to consult closely with their D.Min. program director regarding selection of a dissertation-project topic.

## **Precedent Research**

When reflecting on the question underlying a dissertation-project topic, it is essential to discriminate between two classes of information required to address that question. On the one hand is information which already is available. It may not be known, at present, to the researcher, but it exists within the community of ministry scholarship or within the community of scholarship of a cognate discipline. On the other hand is information which currently is not available. The data exist, but they have not been collected and articulated so as to make them available to ministry scholars and practitioners. The first kind of information is identified as "precedent research," the second kind as "empirical unknowns."

Because the researcher may be only partially aware of the breadth of precedent research related to his or her dissertation-project topic, mastering precedent research may constitute a significant task. Nevertheless, mastering precedent research is not the principal objective of the researcher; it only constitutes the necessary prerequisite for engaging the dissertation-project topic. It is the "homework" required before research is begun!

All research builds on prior knowledge. No valid research floats in midair, unrelated to everything that has gone before. Every researcher's task is to advance the accumulated wisdom of the community of ministry scholarship. To do so, one must be thoroughly familiar with the funded knowledge of that community. There is no room for "lone ranger" projects!

It is common for graduate students to insist that "nothing like this ever has been done before." While the student assumes this establishes the validity of the proposed topic, in fact it demonstrates that he or she has yet to do necessary homework. Sometimes the knowledge on which a study builds must be drawn from a cognate field. In every case, however, the student is responsible to identify bodies of precedent research on which the present study can build. Frequently these research traditions will suggest issues to be addressed in the current study.

The precedent research chapter will be the most citation-abundant section of the dissertation. The student should bear in mind that the task is to produce a synthesis of research that bears on the topic. This entails establishing bibliographic control and more; it entails formulating and expressing one's own understanding of the state of the research—what is known related to the topic to be researched. Students who fail to synthesize current knowledge often describe the work of one writer after another in a series of mini-reviews. This is not expected or acceptable in doctoral research. Even when reviewing precedent research, the doctoral candidate will move the profession forward.

Although research typically entails considerable reading, the value of research is not enhanced by accumulating extensive bibliographies. The point of bibliographic research is not to see how many titles can be identified, but to establish a grasp of each field of research on which the present study builds. At a minimum, one must be



cognizant of the seminal studies which gave rise to the field, the major options which exist within the field (and their proponents), recent literature in the field (including the positions of recent authors *vis a vis* the seminal studies) and the traditional options. The point, however, is to establish a foundation on which the present study can build.

Only those sources cited in the dissertation will be included in the reference list. It is prudent, therefore, to incorporate in the text of the dissertation reference to seminal and major recent works related to the dissertation-project topic, so readers will be reassured of the researchers awareness and consideration of these works. A student's grasp of the precedent research fields is expected to exceed the reference list entries, however, and questions pertaining to the wider literature may be raised in the oral review.

## **Empirical Unknowns and Research Questions**

If precedent research is the "homework" which qualifies the researcher to address the dissertation-project topic, then empirical unknowns constitute the task to be engaged. Having identified what we *already know* about the topic (i.e., what already is known within the community of ministry scholarship, and thus by the well qualified ministry researcher), the task becomes to identify and obtain that information which still is lacking--what we *need to know*. Experimental research deals with hypotheses, but descriptive and evaluative research is pursued best by identifying and addressing empirical unknowns.

When an appropriate topic has been defined, empirical unknowns can be identified by asking, "What does one still need to know in order to address this topic?" There may be several things one would *like* to know, but empirical unknowns relate to "*need to know*." Thus, the statement of the research problem (i.e., the dissertation-project topic) disciplines the identification of empirical unknowns requisite to the problem.

Empirical unknowns identify areas of investigation related to specific concrete or theoretical contexts. As we bring the accumulated wisdom of the discipline field to those contexts, the research task is clarified (i.e., it becomes obvious what we still *need to know*). Depending on the nature of the research problem, the researcher may be required to reflect deeply and knowledgeably on the missiological or ministry context, on ministry theory, on biblical and theological understandings, on organizational (e.g., church or mission) history and structures, or on pertinent theory developed in cognate discipline fields. In doing so, he or she should ask, "Does this identify an area of investigation related to the dissertation-project topic which, if explored, would enable one to address the research problem?" A positive answer to that question indicates an empirical unknown.

Each empirical unknown should be framed as a separate question posed by the theological or theoretical foundations of the research, its missiological or ministry context, or from the nature of the topic itself. Statement of the empirical unknown should be introduced by summarizing the context out of which it arises. This is the function of the opening section of the dissertation. One-by-one, the contexts which give rise to each empirical unknown should be identified, leading to a statement of the empirical unknown. Presentation of the context should be succinct, yet sufficiently full to enable the reader to recognize the relevance and importance of the unknown.

Beyond their source, the researcher must assure the comprehensiveness of the empirical unknowns identified. In any well designed research, collecting pertinent information in areas identified by the empirical unknowns will qualify one to address the topic proposed. If one can exhaust the areas of investigation presented by the empirical unknowns and still lack information needed to address the larger topic, the research has not been well designed. On the other hand, if a research task engages more than three or four empirical unknowns (i.e., areas of investigation) it probably is over-ambitious. Many research projects will engage only two empirical unknowns. Evaluative studies engage only one (e.g., "Should this program be implemented?," "How can the effectiveness of this program be improved?," or "How effective was this program?")

A second level of analysis in research design focuses on identifying specific research questions (RQ's) related to each empirical unknown. The initial step was to reflect on the dissertation-research topic, asking, "What do I *need to know* in order to answer the question posed by this topic?" The answer to that question was the

empirical unknowns identified. The next step is to reflect on each of the empirical unknowns and ask, "What do I *need to know* from this area of investigation in order to answer the question posed by this empirical unknown?"

Note that in each case the critical question is posed in terms of what we *need to know*. Typically, disciplined reflection will identify one to four (rarely more) questions which, if answered, will provide the information needed from that area of investigation. If the empirical unknowns are comprehensive, obtaining the data required by the research questions will qualify the researcher to address the dissertation-research topic.

Graduate students commonly confuse research questions with specific items to be posed in survey research. Items included in survey research must be justified on the basis of specific research questions, but typically research questions express broader concerns than survey items can embrace. Consider the case of research on use of "The ICAA Manifesto on Renewal of Evangelical Theological Education" by a select group of schools. Here is an example of ONE Empirical Unknown and FIVE Research Questions:

EU: In what ways and to what extent do administrators and faculty accept the values expressed in the ICAA Manifesto?

RQ<sub>1</sub>: Do administrators and faculty agree with the values expressed in the ICAA Manifesto?

RQ<sub>2</sub>: Do administrators and faculty believe their school consistently demonstrates these values in present programs?

RQ<sub>3</sub>: Have administrators and faculty specifically attempted to implement these values within the past five years?

RQ<sub>4</sub>: Are administrators and faculty satisfied with the results of these attempts?

RQ<sub>5</sub>: Do administrators and faculty know other institutions which demonstrate these values to a high degree?

Any research which directly posed these questions to administrators and faculty of Bible or theological schools would have low validity. Since the ICAA Manifesto affirms twelve different values, it is reasonable to assume that responses would vary from value to value. A valid measure of these questions, therefore, may entail a survey instrument with at least sixty items (5 RQ's × 12 values). One would be very mistaken, however, to suggest that the study entailed either sixty empirical unknowns or research questions.

One way to verify the appropriateness of a topic's delimitation is to note the number of research questions which it raises. A typical dissertation-project topic may raise four to ten research questions. Topics which fall significantly outside these limits should be carefully scrutinized.

## **Research Methodology**

The research methodology grows out of the research questions. Having established what we already know related to the topic, and what we need to know, the researcher designs a strategy for addressing the research questions.

The nature of the research questions typically suggests ways of designing the research. Data required by some research questions is obtainable only through documentary or survey research. Other research questions must be addressed through ethnographic data. Some research questions may require multiple research methods. The number of methods is immaterial; the thoroughness and appropriateness of the research design is essential.

Often more than one research question will indicate a particular research methodology. Attention should be given to design the research as efficiently as possible. Multiple questionnaires addressed to the same respondents would surely antagonize, decreasing the validity of data collected.

It is essential to think through the research design, both logically and sequentially. The logic of the design must be tight, affording no opportunity for rival hypotheses. The research questions must exhaust the "needs to know," and each research question must be addressed thoroughly.

On the other hand, the researcher must have a clear conception of the steps required to implement the research. It is useful to enumerate the steps required, noting the method employed in each step and the research question or questions addressed by each. The goal is to describe the research design so thoroughly that another researcher could implement or replicate the study without difficulty. This is, perhaps, the most demanding aspect of research, since it requires flawless logic and planning. The effect, however, is to provide the researcher with a plan which can be implemented with confidence, knowing that questions will not pop up later in the project which were unanticipated or unaddressed in the research design.

## **Reporting Research Findings**

In a five chapter dissertation, the fourth chapter is given to reporting the research findings. Major divisions of the chapter should correspond to the research questions stated in chapter one. The research questions are not used as section headings but the issue raised by each question is stated in heading form. Thus, RQ<sub>1</sub>, in the previous illustration, might be restated as, "Administrative and Faculty Agreement with Manifesto Values," RQ<sub>2</sub> might become, "Demonstration of Manifesto Values in Participating Schools," etc. Using research questions as the framework of the chapter will enable readers to recognize the relationship of data to the logic of the research design.

Research findings are reported in narrative prose, illustrated by tables, charts, and graphs, as appropriate. It is important to recognize that tables, charts, and graphs, when used, illustrate the text, rather than replace it. The text of the dissertation should provide a complete presentation and discussion of research findings without dependence on illustrative data. At the same time, the significance of data often is more easily recognized when presented in tabular or graphic form.

When used, tables or graphs should appear *after* their first mention in the text and preferably in close proximity to that reference. It usually is best to locate a table or graph at the top or bottom of a page, so that text is not interrupted unnecessarily. Tables longer than a single page often fit best in an appendix.

While reporting findings is essential, discussion of findings also is important. The significance of research data may not be immediately evident to readers. It is the researcher's responsibility to draw out the implications of findings and connections among them. The purpose of research is to address a question; presentation of research findings should make clear the relationship between the question posed and the data collected. Discussion of findings also should reflect the professional and the biblical-theological context of the research, as reviewed in chapter two.

## **Research Conclusions and Recommendations**

While the final chapter may be the most helpful to ministry practitioners, typically it also is the easiest to write. By the time the researcher approaches writing the final chapter he or she has been reflecting on data collected for weeks. All that is left is to articulate for others the insights drawn.

The final chapter of the dissertation draws together the work done. The original research problem, stated in chapter one, is restated and conclusions obtained through the research are discussed. This is not the point for

introducing new data or for engaging issues not discussed in previous chapters. It may be necessary, however, to clarify how the findings of the various research questions weave together to support the conclusions drawn.

Occasionally, a well designed research project will yield inconclusive results. This does not indicate that the research or the dissertation is without merit. The conclusion in such a case may be that the underlying problem is different than assumed in the research design. While every researcher hopes that work done will lead to ministry-changing conclusions, it would be wrong to conclude that nothing of value can be learned if findings are inconclusive. Others who address the same problem will be alerted that the approach taken in this study can be discarded in the continuing search for understanding.

In addition to stating the conclusions of the study, the final chapter applies those conclusions to specific ministry contexts and identifies lessons learned in the course of the research. A missiological dissertation may yield suggestions for Evangelical missions globally, for the researcher's own mission agency, and for the North American church or churches the mission serves. Likewise, a pastoral dissertation may lead to suggestions for pastoral staff, congregational, and denominational applications of the research conclusions.

The researcher also has an obligation to share with other researchers insights derived through the course of the research. Every research can look back and identify things he or she would like to have known earlier or would like to have done differently. It is a service to one's profession to share with others lessons learned along the way. It also is likely, in the course of the research, that one has discovered new dimensions of the problem or of related problems that the present research design does not address. Another recommendation for future researchers may be to identify fruitful areas for research, including replication of the present study with different populations. While recommendations of this kind may not seem exciting, they are important to continuing research within the discipline field.

The final chapter should conclude with a brief (i.e., one or two paragraph) summary of the research problem (including its context and importance), the research method, and the conclusions of the research. When these are succinctly stated, the researcher has done her or his work.

## **Chapter 3: METHODS OF RESEARCH**

Dissertation research is marked by rigor at every stage—framing the problem, identifying precedent research, designing the research project, conducting the research, and drawing conclusions from the research findings. Central to every dissertation research project, however, are the methods adopted for pursuing the research. Selection of appropriate research methods is essential to a quality research project. This chapter discusses six basic methods employed in Doctor of Ministry dissertation-project research.

### **Bibliographic Research Methods**

Bibliographic research is essential to every dissertation-project. In order to understand the dimensions of a research problem, one first must determine what already is known about the problem and about related problems in similar contexts. Furthermore, all research is grounded on prior theory and research. The first step toward any contribution to professional understanding and practice is to familiarize oneself with what already is known. This entails what often is referred to as “establishing bibliographic control.” One has established bibliographic control when reading an additional article or book adds little new information to what already is known. Complex research topics—i.e., topics that draw on two or more research traditions—will require establishing bibliographic control in each tradition of precedent research.

In addition to theoretical and empirical grounding, Doctor of Ministry dissertation-projects must be biblically and theologically grounded. All of one’s prior biblical and theological studies, as well as one’s ministry practice, inform reflection on the research problem and on the implications of research findings. In addition, new theological research or biblical-exegetical study may be required to ground reflection appropriately.

The reference librarian is able and eager to assist students in identifying and learning to use online bibliographic database software needed to support the student’s research. Since the CIU library’s database services are available through the CIUOnline website, these resources are available wherever the Internet can be accessed. Researchers will especially appreciate access to “full text” publications and to WorldCat, a database that indicates the name and location of libraries holding a desired resource. When offprints of journal articles are needed, these can be obtained through the library’s inter-library loan (ILL) service.

When a list of promising resources has been generated, the next step is to locate the books or articles listed. With the book or article in hand, the student should scan (not read) the source to determine whether it is relevant and useful. If so, one is advised to photocopy the article or the potentially useful section(s) or chapter(s) from the book. U.S. copyright laws permit anyone to make a copy of published material for one’s personal use. By photocopying the relevant material, the researcher has a copy which can be marked as needed for future reference. This also eliminates the need for note taking. It is useful to set up a physical file with folders for major points in the outline of the dissertation’s precedent research chapter(s). As resources are collected, they can be filed under the outline section where they are most likely to be used. This enables the researcher to see at a glance what sections of the precedent research chapter are least resources and, thus, most in need of additional attention. Furthermore, when the researcher is ready to write, each file, in succession, will present the resources relevant to that section.

It is expected that the dissertation-project will reflect one’s own research, insights, and words. Plagiarism is not tolerated and may be cause for rejection of a dissertation, dismissal from the D.Min. program, and (if discovered late) of revocation of an awarded degree. Plagiarism is any representation of another’s work as one’s own. To incorporate sentences or paragraphs from a published work into a paper or dissertation without indicating it is a quotation and appropriately citing the source is plagiarism. To modify or paraphrase a text without identifying its

source is plagiarism. To borrow the ideas of another and present them as one's own without acknowledging their source is plagiarism. Thus, great care should be exercised when referencing the work of others. Heavily cited text is appropriate in dissertation writing, so researchers have no need to hesitate crediting the sources of their material. At the same time, quotations should be used sparingly; quote only when the case requires an authoritative pronouncement or when there is a particularly effective turn of phrase.

## Ethnographic Research Methods

Although few Doctor of Ministry dissertation-projects are purely ethnographic, ethnographic methods contribute to the design of many D.Min. research projects. Ethnography is the work of describing a culture from the "native" point of view (Spradley, James P. *The Ethnographic Interview*. Wadsworth, Belmont, CA, 1979, p 3). Ethnographic research proceeds cyclically and is cumulative. The expert observer repeatedly observes, queries, reviews, analyzes, and reflects with the aim of accumulating and refining cultural understanding. Spradley's development of the process of ethnographic research and the kinds of questions framed in the work cited is suggestive of methods that other researchers may find useful.

Most suggestive are the different types of questions used by ethnographers, since it expands the range of models researchers bring to the design of research instruments (see below). Spradley elaborates "a taxonomy of ethnographic questions" that includes "descriptive questions," "structural questions," and "contrast questions" (Spradley 1979, 223). The following paragraphs provide a summary of Spradley's taxonomy, but students are encouraged to review Spradley's book for themselves.

"**Descriptive questions**" include "grand tour questions," "mini-tour questions," "example questions," "experience questions," and "native language questions." Grand tour questions request the informant to describe the object of research in its totality. Thus, when studying Tamil culture, the ethnographer may ask an informant: "How does a Tamil man find a wife?" "How do Tamil families raise their children?" "How is rice cultivated in Tamil Nadu?" Each of these are 'grand tour questions,' since the processes in focus are complex. Grand tour questions, however, orient the researcher's thinking and work. "Mini-tour questions," in contrast, seek to add texture and detail. Often a mini-tour question will pick up a point mentioned in a grand tour question and pursue it. Continuing the line of examples above, mini-tour questions may include, "Please tell me more about the role of a man's father in finding a wife for his son," or "Please explain how the rice seedlings are planted and replanted." Thus, grand tour questions and mini-tour questions explore the informant's perception of cultural, community, or organizational life.

"Example questions" request the informant (or, in non-ethnographic settings, the respondent) to illustrate a point by providing an example. So, the ethnographer might ask, "Who, in your village, has married recently? How did he find his wife?" "Experience questions," on the other hand, draw directly on the experience of the cultural informant. The ethnographer might ask, "Tell me how you came to marry your wife," or "How did you find the wife for your son?" Finally, "native language questions" explore the natural, often colloquial, expressions of members of a society, community, organization, or sub-group. To explore "native language" expressions related to marriage in Tamil Nadu, one might ask, "Please describe the 'love marriage' approach to finding a wife."

In Spradley's taxonomy, "**structural questions**" seek to clarify the researcher's understanding of functional, social, and interpersonal relationships. Structural questions include "verification questions," "cover-term questions," "included term questions," and "substitution-frame questions." When posing "verification questions," the researcher expresses her or his current understanding of a cultural or organizational phenomenon or more and requests verification or correction. "Cover-term questions" and "included-term questions" explore the way words are used to describe relationships. "Relative" is a "cover-term" for "father," "mother," "child," "son," "daughter," "aunt," "uncle," "grandparent," etc. Each of these, in turn, is an "included-term" of "relative." Understanding how relationships are described in various spheres (e.g., kinship, politics, economics, religion) is both critical and insightful in developing ethnographic understanding. Exploring cover-terms and included-terms may prove equally insightful when researching ministries and ministry contexts. "Substitution frame questions" present the informant with a cover-term and seek to elicit new included-terms. The ethnographer may say, "I understand that the mayor is a 'person who matters.' Who are other 'persons who matter'?" Or, in a mission agency context, the researcher

might ask, “I see that you have ‘an established sending base’ in Canada. In what other nations do you have ‘established sending bases’?”

“**Contrast questions**” offer ways to explore the relationships of language and concepts within the culture at a deeper level. Although Spradley lists seven types of “contrast questions,” those most likely to find application outside of ethnography include “directed contrast questions,” “dyadic contrast questions,” and “triadic contrast questions.” “Directed contrast questions” present the informant with a cultural phenomenon ask for examples of other phenomena that are different. In “dyadic contrast questions,” the researcher presents the informant with two associated terms and asks the informant to explain how they are different. “Triadic contrast questions” are similar but present three terms and ask the informant to identify the two that are most similar and to explain how the third differs from the others.

Ethnographic questions are suggestive of open-ended items that may be useful in grounded theory research, survey research, case study research, or evaluative research. When developing interview schedules and survey instruments, the researcher is wise to reflect on the types of items included and to ask whether there are other types of items which might yield greater insight.

## Grounded Theory Research

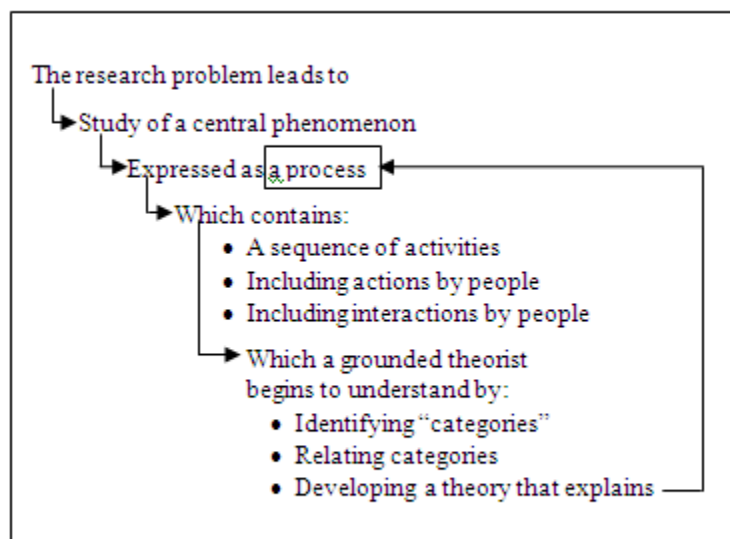
Grounded theory research takes a qualitative approach to descriptive research. As with all descriptive research, the purpose of grounded research is to order experience, that is, to develop theory; as with all qualitative research, data are verbal and procedures are interpretative. Grounded research is similar to ethnographic research in that understanding is accumulated through cycles of data collection, reflection and testing. Grounded research differs from ethnographic research in that it is driven by a problem.

Since grounded theory research represents a break with traditional, quantitative approaches to arriving at theory, advocates of grounded theory research have taken pains to establish the credibility of the method. One evidence of this is the jargon employed by grounded theory researchers. “Memos” are reflective field notes that are used as data. “Categories” are classes of data. A “core category” is a category selected for its interpretive power with respect to the research problem. “Open coding” is the process of assigning observational data to research categories. “Axial coding” is a schematic that proposes relationships of categories. “Theoretical propositions” are proposed understandings, thus, theoretical constructs that address the problem.

The figure at the right represents the flow of research within grounded theory as conceived by Cresswell. A full description of grounded theory research is included in Cresswell’s textbook. The student is encouraged to read Cresswell’s description of grounded theory research if this appears an appropriate method for the envisioned research project.

The concept of process is central in grounded theory research. Through classification of observed phenomena, reflectively compared at every level of analysis, the grounded theorist pursues understanding of the central process or processes characteristic of the problem.

### The Flow of Research within Grounded Theory



Adapted from Figure 14.4 in John W. Cresswell, 2008, *Educational Research*, 3<sup>rd</sup> ed., Upper Saddle River, NJ: Pearson Education.

Thus, observational data are sorted, coded, and classified with “constant comparison” at every level and stage. “Constant comparison procedures” are a mark of grounded theory research.

## Survey Research Methods

Survey research is the most familiar research method, since the news media regularly report survey findings and surveys are regularly encountered in the course of daily life. Survey research is takes a quantitative approach to descriptive research. As such, the purpose of survey research is to order experience. Many D.Min. dissertations adopt a survey research design, while others incorporate one or more surveys into another research design.

It is common for novice researchers to assume that every research project should include a survey. This is not true. Indeed, if data required to address a research problem are otherwise available, one should not consider conducting a survey. If required data are not otherwise available and those who possess needed information are accessible, however, conducting a survey may be an efficient and credible way to obtain the data for the research.

Survey research may take one of several forms. A paper survey instrument may be used when respondents are physically accessible, either in person or through the postal service. The Internet may be used to conduct an electronic survey when the researcher has contact with potential respondents. Online software, such as SurveyMonkey<sup>®</sup> and Zoomerang<sup>®</sup> are free and easy to use. The interview also is a form of survey research. An interview often is the most efficient way to obtain information specific to an organization or ministry if print resources are unavailable or non-specific. Observational research, such as studies that collect data on the administration of worship services, classroom instruction, and church planting procedures, also are a form of survey research. In each case, the researcher collects data from multiple observations across a population.

Three considerations are critical to any survey research design, selection of survey respondents, design of the survey instrument, and sample rate of response. The universe of individuals comprising the group of interest is designated the “population.” The population of a research study may be small (e.g., the members of a congregation) or unmanageably large (e.g., the residents of a world-class megacity. A “population” need not be humans; the population of a study of an association of theological colleges would be all the institutions that are members of the association. Research that elicits data from a population is termed a “**poll**.” Since practicality limits the number of participants, or “subjects,” in any study, it may be necessary to limit measure a sub-group, or “sample,” of the research population and project findings to the larger population. Research that elicits data from a population “sample” is termed a “**survey**.”

The terms “poll” and “survey” are not used in this technical sense by the popular media; despite their own use of the term, Gallup, Inc. does not conduct polls, it conducts surveys. Most “Gallup Poll” reports on the opinions of 310-million Americans are projected from a sample of about 3500 respondents. These statistics are valid, however, because Gallup takes great care in the way respondents are selected.

### Selection of Survey Respondents

In survey research, when an instrument is well designed, the highest level of confidence is obtained by polling the research population. When a poll is impractical, due to the size of the population, a survey using a true “**random sample**” is recommended. To draw a random sample, members of the research population should be serially numbered. A random number generator, then, is used to draw a sample from the population. A simple to use random number generator is available on the Internet at [www.random.org](http://www.random.org). Numbers generated identify members of the research population to be included in the sample.

An alternative to random sampling is a “**systematic sample**.” While not yielding the same level of confidence as a random sample, survey research that employs systematic sampling is acceptable in most situations. To draw a systematic sample, the researcher selects respondents at predetermined intervals from a ordered (e.g.,



alphabetical) list of the research population. In a population of 1500 students, a researcher may decide to draw a sample size of 150 students. In that case, the researcher would include in the sample every tenth student listed in a student directory.

At times, a researcher may determine that it is important that the research sample include representatives of sub-groups identified in the research population, for example, an equal number of freshmen, sophomores, juniors, and seniors enrolled in selected Christian universities. This is done by drawing a “**stratified sample**.” When drawing a stratified sample, each population sub-group is treated as a separate population. Subjects included in the sample may be identified using random sampling or systematic sampling techniques, but when merged, the research sample is identified as a stratified sample of the population.

One sampling method, although all too common, never is appropriate. When respondents are selected on the basis of their availability, there is no reason to believe they are representative of the larger research population. Their characteristics or opinions are significant only for themselves; they cannot be generalized to the population of which they are a part. This is known as “**convenience sampling**”; D.Min. research that employs convenience sampling will be rejected.

### **Design of the Survey Instrument**

In survey research, reliability and validity establish the credibility of findings. Reliability refers to the consistency of results when a test is administered to a specific population; validity pertains to the appropriateness of the statistic to the research question. Reliability is highest when a standardized test is available to elicit information required in research since many standardized tests are normed against very large populations. When a standardized test is used, the researcher can compare the scores of his or her test group with those of a much larger population. This affords confidence that the variables measured, indeed, are normal or are exceptional. Since standardized tests typically are copyrighted, they can be expensive. Furthermore, available standardized tests may not measure variables that are critical to a particular research problem. If available and appropriate, a standardized test should be used. (An interesting and informative “mind map” of standardized tests available in the United States is available on the Internet at [http://gogeometry.com/gmat/standardized\\_test\\_usa\\_mind\\_map.htm](http://gogeometry.com/gmat/standardized_test_usa_mind_map.htm) . In many situations, however, researchers are forced to design their own survey instruments.

The alternative to a standardized test instrument is a researcher designed instrument. The advantage of researcher designed instruments is that they can include items specific to the research problem at hand. The disadvantage is that the responses obtained are only as good as the design of the instrument and reflect only the population to which the instrument is administered. Researchers using survey instruments of their own design must be careful not to attribute more significance to their findings than are warranted.

When designing a survey instrument, it is important to recognize the various types of items (i.e., questions) that may be employed, as well as the use and analysis of each. (For examples of various types of survey items, their use and analysis, see Appendix F). **Open response items** are the easiest to create but responses to open response items often are the most challenging to interpret. An open response item is a question with an unrestricted response frame. In contrast to open response items, **forced choice items** limit respondents to a set of defined response alternatives. These may be “Yes/No,” “Select one response from the following list” (e.g., one’s state of residence), or “Select the response closest to your opinion.” When respondents are provided a set of defined responses but allowed to indicate multiple responses, the items are **checklist items**. Checklist items provide the researcher with a measure of the range and frequency of responses with respect to a quality or phenomenon. **Rating items** typically measure respondent opinion. Respondents may be asked to rate the truth or likeliness of a statement on a scale of one to five or one to seven. (Note: Despite the popular use of a rating scale of one-to-ten, a scale of that magnitude lacks the reliability required for formal research.) **Ranking items** differ from rating items in that they require respondents to arrange elements in an ordered sequence. A ranking item may require a respondent to indicate, for example, her or his order of preferences or one’s observed frequency of events. When designing a survey instrument, the researcher should begin by identifying the specific data needed to address the research task and select the type of item that most efficiently elicits those data.

## Sample Rate of Response

A well designed survey instrument only yields significant data, however, when the rate of response is within acceptable limits. When rate of response is low, the only responsible conclusion is that those respondents who responded differ in significant (but unknown!) ways from those who did not respond. In such situations, any use of the obtained responses is highly questionable. As a result, researchers must attend to factors which may increase or inhibit a survey's rate of response.

Because trust is significant in eliciting respondent participation in a survey, the cover letter provided with a mailed or electronically distributed instrument is important. Whenever possible, the cover letter should be signed by a person of influence who is known among the population of respondents. A researcher may draft a cover letter to be signed and sent from one's denominational president or mission administrator. Furthermore, it is advantageous to cast the research project as beneficial to the group, often including an offer to share findings of the research with respondents, upon request. In contrast, rate of response often is depressed when the cover letter identifies the project as a Doctor of Ministry program requirement; prospective respondents may feel that makes the project the researcher's issue rather than their own. An attractive, well framed, highly commended cover letter signed by a recognized leader, however, can go far toward increasing a survey's rate of response.

Another factor that tends to correlate with rate of response is instrument length. Except when prospective respondents have reason to distrust a survey or its sponsor, most individuals will respond to a "brief" survey. On the other hand, respondents must be highly motivated to respond to lengthy and time-consuming surveys. The implication for researchers is clear: Every effort should be taken to identify unnecessary or redundant items and to purge the instrument of items that demand more of respondents than is necessary.

A third factor that can influence a survey's rate of response is the order of items in the instrument. This is related to the issue of trust. When demographic items, requesting information about the respondent, are placed at the beginning of an instrument, respondents may hesitate to respond, lacking confidence as to how personal information may be used. It is preferable, therefore, to place first items that address the research problem. When the respondent's interest and confidence in the project has been raised, there is a higher probability that the survey will be completed, including demographic items that are reserved to the end of the instrument.

Finally, experience indicates a number of "tips" that should be noted by novice researchers pursuing survey research designs. A pilot study using a small sample drawn from one's population will improve the usefulness of survey item. This is particularly helpful in identifying response alternatives to be included in forced choice, checklist, and ranking items. In the pilot study, a limited number of respondents are presented with open response items that correspond to the closed response items to be included in the survey instrument. Responses obtained to open response items will indicate significant response alternatives. This is more reliable than relying on the researcher's perception of appropriate response alternatives.

When framing survey instrument items, item stems and response alternatives should be worded to assure clarity. Ambiguous items cannot yield useful data.

When framing items, it is helpful to consider how responses will be tallied. For example, a rating item may yield high scores when framed positively, but low scores if framed negatively. If items are framed so that all high scores reflect a common perspective, confusion regarding the interpretation of data is less likely.

Since respondents may have information germane to the research which they want to share but which is not addressed in the instrument, it is wise to include an open response item that elicits anything else that a respondent may wish to share. This has been termed, "the universal question." Often the universal question yields no response, but occasionally it will elicit a response that is critical to the research project. For this reason, it is wise to include "the universal question" in every researcher designed survey instrument.

Researcher designed survey instruments always should be field tested with a small sample of respondents similar to the research population. (Caution: Do not use potential respondents for field testing, since prior exposure

to a draft instrument will disqualify them from participation in the survey.) Field testing typically yields important information that will guide the instrument's refinement.

By heeding these "tips," researchers can frame items and design instruments that will serve well their survey research project.

### **Case Study Research Methods**

Cresswell defines a case study as "an in-depth exploration of a bounded system" (2008, 476). Thus, a case study is careful examination of a single organization or program that is designed to identify characteristics specific to that entity. Typically, case study research entails a limited number of organizations or programs (fewer than ten but more than three) that then are compared for structural and programmatic insight with respect to the characteristics in view.

An example of case study research is *Renewal In Theological Education* (Ferris, R.W. 1990. Wheaton: The Billy Graham Center). In this research, Ferris visited eight theological schools in seven nations in order to observe factors in those institutions that contribute to renewed approaches to ministry training. Findings from the eight case studies were compared for insight with respect to commonalities and for predictive salience, should other institutions seek to adopt steps toward renewal of ministry training in their own programs.

Case study research is a powerful tool in informing the practice of ministry. To employ the case study method, a researcher must be able to identify an appropriate number of model institutions or programs that demonstrate excellence in the researcher's focus area. It rarely is helpful to study examples of institutional or programmatic failure; in most cases it is more instructive to recognize what leaders and administrators *should* do, rather than what they *should not* do—steps that lead to *success*, rather than steps that lead to *failure*. Similarly, a study designed to identify why a people group *does not respond* to the gospel is not worth doing. It only provides church planters with excuses for being unsuccessful. A more worthwhile and productive study would entail identifying cases in which church planting among this people group has been effective and to explore factors which, in these cases, contributed to successful church planting.

The methods employed in case study research include those common to survey research—the examination of documents, direct observations, surveys, and interviews. Observational data is collected on "observation schedules" that discipline the recording and reporting. Interviews are guided by "interview schedules" that list topics for discussion and questions to be posed in the course of an interview. Observation schedules and interview schedules should be used wisely; generally, allowing the schedule to discipline observation or to guide the interview is good practice. Should unanticipated but significant events occur or topics arise, however, the researcher is wise to depart briefly from the prepared schedule in order to note, and sometimes to pursue, them.

The true power of case study research resides in the opportunity to compare model systems for structural or programmatic insight. This is dependent on the appropriateness of the cases selected for study and on insight developed by the researcher in the course of the research. Well designed and executed case study research holds much potential for improving ministry practice.

### **Evaluative Research Methods**

The purpose of evaluative research is to inform decision making, typically with respect to a program, ministry strategy, or curriculum. As indicated in Chapter 1, evaluative research may be undertaken before a program is implemented ("preformative evaluation"), in the midst of an ongoing program ("formative evaluation"), or when a program has concluded ("summative evaluation"). Preformative evaluation addresses the question, "Should a proposed program be implemented?" and entails weighing predictive evidence and expert opinion. Preformative evaluation studies rarely attain the level of scope or rigor expected in dissertation research. Formative evaluation addresses the question, "How can the current program be adjusted to make it more effective?" Summa-

tive evaluation addresses the questions, “To what extent did the program achieve stated objectives?,” “What were the cost-benefit outcomes of the program?,” “To what extent were Christian values, such as human dignity, justice, and stewardship, evidenced through this program?,” and, perhaps, “How should the program be modified, if it is replicated?” Both formative and summative evaluation studies may be appropriate to dissertation research.

The methods employed in evaluative research also include those common to survey research; the focus of evaluative research is its distinguishing characteristic. When designing evaluative research, it is essential to begin with—but not to limit observation to—stated objectives of the organization or program in view. Failure to orient evaluative research to institutional or program objectives leads to ambiguous and often meaningless findings. Failure to look beyond stated objectives leads to “tunnel vision” that may overlook significant factors that bear on the effectiveness or contribute to the failure of the institution or program studied. When designing an evaluative research proposal, the institutional or program objectives—supplemented by a question that directs attention to Christian values and unanticipated factors—may suggest the research questions that guide the study.

Doctor of Ministry researchers must be careful, when proposing an evaluative research study, to demonstrate that the research bears significance beyond the specific institution or program studied. This rarely is possible with preformative evaluation studies, although formative and summative evaluation studies may have broad implications for the practice of ministry.

## **Chapter 4: ANALYSIS OF RESEARCH DATA**

Rigorous research design and data collection is only as valuable as the conclusions to which it leads. Without disciplined data analysis, the value of a dissertation and its research are severely limited. Data may be verbal or numeric. The nature of the research data determines the appropriate analytical method. This chapter describes methods for analyzing research data. Methods described in this chapter are illustrated in Appendix

### **Analysis of Verbal Data**

Every Doctor of Ministry research project deals with verbal data. The biblical-theological sections of a dissertation-project report and reflect on the text of scripture. Any historical review of the ministry provided as context for the research almost certainly will entail treatment of documentary data and may include oral history data. Theological students are familiar with the methods used in evaluating and presenting these kinds of verbal data.

Verbal data collected through open response items on survey instruments or in interviews are content analyzed. In **content analysis**, the researcher reviews responses, focusing on the perspective of respondents rather than on verbal expression, and identifies unique perspectives in the population or sample. Responses, then, are tallied for the perspectives identified and reported by response categories. The effect of content analysis is to reduce the number of response categories so findings can be quantified for statistical analysis. Content analysis of open response data collected on a survey of opinion regarding factors contributing to renewal in theological education is illustrated in Appendix F.

With the desire of qualitative researchers to infuse discipline into and to develop credibility for their work, standards have been developed for assessment of qualitative data. Most widely accepted is the method of **constant comparison**, mentioned above in the section on grounded theory research. Constant comparison analysis entails repeated cycles of review as specific observational, field memo, and interview transcript data are mined for reflective insight. Each datum, referred to as an “incident,” is compared to other incidents in an attempt to identify common themes. A theme, when identified, is designated a “code.” Codes, in turn, are compared to identify their relative explicative and interpretive power. The code that affords the greatest insight is termed the “axial code.” Throughout this reflective process, the researcher continues to compare codes with incidents to assure grounding of derived theories regarding relational and social process.

### **Statistical Analysis of Numeric Data**

Statistics, like most disciplines, has a jargon unfamiliar to the general population and to novice researchers. This section introduces terms and concepts that are needed when reading research reports and when designing research.

#### **Basic Concepts in Statistics**

All the individuals of a group comprise a **population**. In common use, “population” is applied to the residents of a city or nation; in statistical usage, however, a population may describe the membership of a church association or a mission agency, the schools affiliated with an accrediting agency, or the courses comprising the curriculum of a Theological Education by Extension program. A subset of a population is referred to as a **sample**. Various methods of drawing a sample were discussed in Chapter 3.

A **variable** is any factor that changes across observations. Research entails observing, measuring, and recording variables for comparison and analysis. Researchers frequently refer to “variables of interest” and “critical variables.” Careful description of variables is a discipline essential to quality research. A **construct** is a variable that combines two or more underlying concepts. For example, “servant leadership” is a construct; one might understand servanthood and leadership without understanding servant leadership. The concept of servant leadership is greater than a combination of its apparent parts. Research that includes the observation or measurement of constructs must clearly define the construct, conceptually and operationally.

In applying statistical tests to observed data, it is essential to identify the type of measurement to be analyzed. While one might assume that all statistical tests may be applied to any set of numeric data, that is not the case. Some numbers function only as names; these are **nominal** data. Phone numbers, personal identification numbers, and student numbers are examples of nominal data. Nominal data holds no more significance than a verbal name; the mode (see below) may be reported for nominal data but other statistical tests are inappropriate.

**Ordinal** data affords more information than nominal data, but still is not subject to statistical analysis. School grades commonly are identified by numbers but the only information of which a researcher can be certain is that a student in sixth grade has had more years of education than one in fifth grade (and less than one in seventh grade). The order is clear but quantification is not indicated. Similarly, it is common to classify income levels as “upper,” “middle,” and “lower class.” These are ordinal measurements; they identified ordered groups but no information beyond the order. In addition to mode, median and percentile statistics are appropriate in analyzing and reporting ordinal data.

**Interval** data differs from nominal or ordinal data in that categories are numeric, ordered, and regular. As such, interval data can be meaningfully added and subtracted. Temperature readings (either Fahrenheit or Celsius) are familiar examples of interval data. It is meaningful to note that the temperature is ten degrees warmer or cooler than yesterday but nonsense to claim that a fifty degree reading is twice as warm as a twenty-five degree reading. Thus, while interval data may be added and subtracted, it cannot be meaningfully multiplied or divided. This limits the statistical procedures that are appropriate for use with interval data. In survey research, rating items yield interval data. As such, rating items reflect the distribution of opinion across a population or sample but the strength of opinion is unrelated to the numbers assigned; persons who circle 4 on a Likert scale are not twice as confident of their opinion as those who circle 2. Many tests, such as the standard IQ test, also yield interval data since the zero point is arbitrarily set. A person with an IQ of 60 is not half as smart as one with an IQ of 120! Care must be taken when using interval data to observe the limitations of those data. In addition to statistics used with ordinal data, interval data may be analyzed and reported using mean, standard deviation, correlation, and most inferential statistics.

**Ratio** data, on the other hand, have a non-arbitrary zero point and therefore can be meaningfully added, subtracted, multiplied, and divided. Population or sample size and time are examples of ratio data, although few other measurements in social science research yield ratio data. All statistical tests may be applied in the analysis of ratio data.

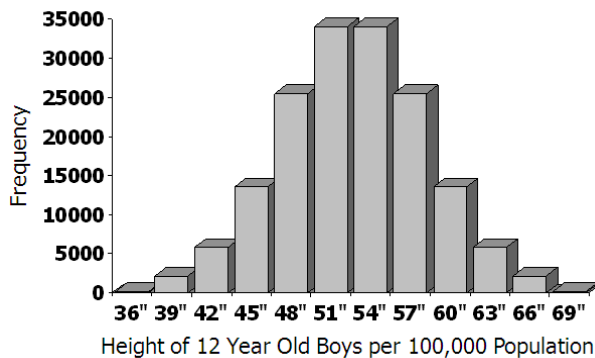
Researchers often are interested in the relationship between two variables, expressed in terms of their distribution within a population. Of course, many variables—e.g., years of pastoral education and the number of members in a congregation within a church association—are unrelated. Researchers typically report that these variables are randomly distributed, or that they reflect **random distribution**. Thus, some pastors with many years of training serve small churches while others with fewer years of pastoral training may serve mega-churches.

Often, variables of interest within a population do, in fact, reflect some relationship. The most significant relationship is referred to as the **normal distribution**, which assumes the shape of the familiar “bell curve.” In normally distributed variables, the mean, median, and mode (see below) are coincident. The illustration below compares the height in inches of twelve year olds with the frequency of occurrence in a normal population of

100,000 boys. The fact that so many variables are normally distributed is important to the interpretation of information gained through statistical testing.

Variables may be related in ways that are **skewed** from normal. A distribution is “Positively Skewed” when measurements cluster near the low end of the X axis and are “Negatively Skewed” when measurements cluster near the high end of the X axis.

Other significant types of distributions are curvilinear distributions and bimodal distributions. Variables in **curvilinear distributions** alter their relationship at some point of observation. For example, it is commonly recognized that stress and productivity manifest a curvilinear relationship. To a point, as stress increases, productivity increases. There comes a point, however, when increasing stress overwhelms the individual and productivity declines. Researchers should be alert for variables that manifest curvilinear relatedness.



A **bimodal distribution**, as the name implies, has two modes. Thus, rather than a single “hump,” the graph of a bimodal population has two “humps.” This commonly is observed when a survey instrument item is ambiguous—some respondents interpret the item one way and respond accordingly, while other respondents take the alternative interpretation, which is reflected in their responses. Thus, when analyzed, responses to the item reflect a bimodal distribution. While every bimodal distribution should send the researcher back to examine the instrument for ambiguities, a bimodal distribution also will occur if a population is polarized in its opinions or values. This may constitute a significant finding with strategic leadership implications.

## Descriptive Statistics

Although there are many statistical texts that may be applied to numeric data, those most important for Doctor of Ministry researchers are descriptive statistics. Descriptive statistics are direct measures of variables. They include measures of central tendency, measures of variability, standard scores, and correlation.

Common measures of central tendency include the mean, median, and mode. The **mean ( $\mu$ )** is the arithmetic “average” of a set of scores. It is computed by summing the scores and dividing the sum by the number of scores in the set. The **median**, on the other hand, is the middle score in a set that is arrayed in ascending or descending order. In some cases, a median score may be more informative than a mean score. If a billionaire were to move into one’s neighborhood, the mean income for the neighborhood probably would jump significantly while the neighborhood’s median income may not be affected at all. The **mode**, or modal score, is the score that occurs most frequently in a set. With these definitions in mind, one can see why a normal distribution (illustrated above) is one in which the mean, median, and mode are coincident.

Common measures of variability include range and standard deviation. The **range** of a distribution is simply the highest and lowest measurement in a set. When attempting to understand the characteristics of a population, it often is helpful to know the range of particular variables within that population. The **standard deviation ( $\Phi$ )** of a variable within a population is a very informative statistic. As its name implies, the standard deviation indicates the dispersion, or deviation, of individual scores within a set, measured from the mean. Thus, if one knows the mean and standard deviation of a particular variable within a population, these statistics indicate the significance and commonness of the variable within the population. It is common to assume (given a sufficiently large population) that variables are normally distributed. In a normally distributed population, approximately two-thirds of the scores (actually, 68.26%) will lie within one standard deviation (plus or minus) of the mean and approximately 95% of the scores (actually, 95.44%) will lie within two standard deviations (plus or minus) of the mean. Since more than 99% of scores (actually, 99.72%) lie within three standard deviations of the mean, individual scores more than three standard deviations from the mean are extremely rare. Since the standard deviation is

expressed in the same unit as the mean, a standard deviation score that is relatively large indicates a diverse population while a relatively small standard deviation indicates a more homogeneous population, with respect to the variable measured. Calculation of a standard deviation score, as well as other measures of central tendency and variability, is illustrated in Appendix F.

Standard scores afford a means for comparing measurements from dissimilar populations. For example, in a study that compared faculty and student opinions, the sample of students included in the study was much larger than the population of faculty. The most common standard score is **percentage**. A percentage is a restatement of a score with an assumed base of 100. In survey research, a more meaningful standard score often is **valid percent**. Valid percent is calculated by discounting non-responses. A third standard score is **percentage rank**. Percentage rank is especially useful for identifying the relationship of a single score to the set from which it is drawn. Appendix F includes a table that illustrates the calculation and usefulness of percent, valid percent, and percentage rank.

The **z-score** is a standard score used for comparing measurements of different populations. A z-score restates the measurement in standard deviation units. The formula for computing z-scores is found in Appendix F.

The relationship between two variables is expressed as a **correlation coefficient**. If two variables are not correlated—i.e., if the variables are randomly distributed—the correlation coefficient is zero. If the variables are perfectly, positively correlated—i.e., if every increase in one variable is matched by an increase of the other variable, the correlation coefficient is +1. If two perfectly, positively correlated variables are plotted on X-Y axes, the scores will form a straight line extending as a radius from the intersect of the axes. Two variables are perfectly, negatively correlated when the value of one variable decreases as the other increases. The graph of a perfect, negative correlation also forms a straight line, perpendicular to that of a perfect positive correlation. Variables rarely are perfectly correlated. Degrees of distribution are expressed as positive and negative decimal values between +1 and -1. The closer the correlation coefficient is to zero, the less predictive one variable is of the other. Similarly, the closer the correlation coefficient is to +/- 1, the likely that one variable is predictive of the other. It is common for novice researchers to assume that high positive or negative correlation indicates causation, but this is a fallacy. Correlation does not indicate causation. Indeed, it may be demonstrated otherwise that one variable causes the other, but it also is possible that both variables respond to a third which has not been identified. Researchers should avoid the error of arguing that one variable causes another because the two are highly correlated.

Calculation of descriptive statistics may be intimidating for non-mathematicians, but that is unnecessary. Inexpensive, hand-held calculators will do all the statistics most Doctor of Ministry research projects require. Online statistical calculators also are available (e.g., <http://easycalculation.com/statistics/correlation.php>). Researchers should bear in mind, however, that statistical analysis should be used only when it facilitate insightful interpretation. Statistics which do not enlighten are a distraction to be avoided.

## Reporting Statistical Data

Studies that include numeric data often display those data in the form of tables, charts, and graphs. Graphic display of numeric data can be very helpful in obtaining an overall understanding of the research and its significance. Nevertheless, tables, charts, and graphs should supplement verbal discussion of the data, they must not be viewed as substitutes for verbal discussion. Tables, charts, and graphs appear on pages 21, 44, 49, 50, and 51 of this manual. When graphics are used, care should be taken to include only data that are essential to the point to be illustrated. It is not true that more data is better; sometimes more data obfuscates an issue, rather than illuminating it.



## **Chapter 5: FROM PROPOSAL TO DISSERTATION**

While an excellent proposal is critical to the research project, it is not the end point. Implementing the research design described in the proposal and writing the dissertation are necessary to reap the benefits of disciplined research. This chapter provides guidance for that process.

### **Working with a Dissertation Director**

Throughout the dissertation-project research and writing, the student should work closely with his or her dissertation director. Because the relationship between the student and the dissertation director can affect the enjoyment and progress of the research, it is worthwhile to cultivate the relationship with care. A dissertation director should be:

- Acquainted with the field of your research;
- Acquainted with research theory and design;
- Experienced in using research methods appropriate to your field;
- Interested in you as a person and a researcher; willing to invest time and effort in helping you successfully complete your dissertation;
- A good planner; able to estimate the amount of work to be done and to help you set realistic goals for completing your dissertation;
- Accessible—not constantly, or necessarily on short notice, but consistently; and,
- An encourager! A helpful disposition that combines realism and optimism is invaluable.

Students can expect their dissertation director to assist them in several ways. He or she will:

- Discuss desirable adjustments in the study described in the proposal;
- Review the "Tentative Time Schedule for Completion" and alert the student to points at which scheduling may be unrealistic;
- Review the design and field application of any instruments employed in the study, as well as interpretation of data collected;
- Alert the student to areas of weakness in the dissertation which may attract the attention of readers or reviewers; and,
- Discuss with the student the purpose and procedure of the oral review meeting, and advise how best to prepare, mentally and psychologically.

Students, on the other hand, have several responsibilities as well. They should:

- Develop a good relationship with their dissertation director, so they can openly discuss the dissertation research;
- Carefully consider and respect the advice received. This does not mean the student must implement every suggestion given, but he or she should be prepared to explain why any specific suggestion is disregarded.
- Clearly state their research interests, any questions or problems encountered, and any requests made of the dissertation director. It is hard for the dissertation director to provide needed assistance if the student's thinking is fuzzy and unformed.

- Plan their work carefully. Plenty of time should be allowed before final deadlines, to avoid excessive pressure at the end.
- Work their plan carefully. The dissertation director should be informed of progress made.
- Maintain regular contact to review progress. Office appointments should be scheduled well in advance. Phone and email contacts may occur as needed.

It is courteous and appreciated for students to inform their dissertation director in advance what one wants to accomplish at each appointment. At least one day prior to the appointment, deliver to the dissertation director:

- A brief summary of your progress since the last appointment, together with any material one would like the dissertation director to review;
- A written agenda of questions or specific items one wants to discuss. Identify as specifically as possible what the dissertation director is requested to do with respect to each item on the agenda;
- A suggestion regarding the date of the next appointment, and what one expects to accomplish prior to that appointment.

The student should be on time for all appointments. Be friendly, but also conscious that faculty members have other pressing responsibilities. Stick to the agenda. Conclude the appointment with a word of appreciation.

Finally, students are enjoined to work carefully, and to do their best. Quality work is a credit to the student, to the dissertation director, to our seminary, and to our Lord.

### **The Dissertation-Project Proposal**

The dissertation-project topic is developed in consultation with the student's program director. The student is wise to discuss with her or his program director any topics considered for the dissertation-project, to benefit from early advice regarding particularly promising or troublesome research ideas. Students will be guided through the proposal development process in conjunction with RES 9400, a required course in the D.Min. curriculum.

It must be noted that the proposal submitted to fulfill the course requirements for RES 9400 will need to be expanded, especially in section 2, to satisfy the standards for submission to the student's dissertation-project committee. Course requirements for RES 9400 are the prerogative of the course instructor, but proposal submission standards must adhere to that which follows.

A typical dissertation-project proposal is a minimum of thirty pages in length, but more typically 50 to 60 pages in length. It adheres closely to the design of the dissertation proposed. Section 1 fully develops the research problem and approximates chapter 1 of the dissertation. Section 2 develops the precedent research base of the study. This will be the longest section in the proposal. Section 3 fully develops the research design and approximates chapter 3 of the dissertation. Section 4 states: (1) the qualification of the researcher to address this topic (typically in the form of a focused *Curriculum Vitae* presented as Appendix A), (2) the availability of data for the research, (3) a proposed schedule for completion of the dissertation-project research (typically in the form of a time-line presented as Appendix B), and (4) a tentative outline of the dissertation (typically presented as Appendix C). Additional appendices will begin with Appendix D and will include the instrument(s) to be used in the research. The Reference List follows the last appendix.

In other respects, the proposal should adhere to standards, set forth below, for the dissertation. A "Final Checklist" is provided in Appendix F of this manual. The student should prepare a minimum of five copies of the completed dissertation-project proposal. Four copies must be submitted to the Doctor of Ministries Office; the fifth copy will be retained by the student.

## The Proposal Defense

The D.Min. Program Director will appoint a dissertation committee consisting of a director and two readers. Students are free to request the D.Min. Program Director to assign faculty members of their choice to their dissertation committee. While such requests are taken seriously, students must understand that dissertation direction and reading assignments must take into consideration faculty loads, professional experience, and expertise. Every effort is made to provide each student with the best dissertation committee that is available.

The student is required to meet with this committee to review the integrity and suitability of the proposal. The dissertation committee will advise the student on issues related to the research design, and will assess the merit of the proposal based on its appropriateness and feasibility, educational benefit to the student, and contribution to ministry scholarship. The D.Min. Program Director will be informed in writing by the committee that one of the following decisions was reached:

- Acceptance of the proposal (as submitted)
- Acceptance of the proposal with minor revisions
- Acceptance of the proposal with major revisions (to be re-examined by the committee)
- Rejection of the proposal as methodologically or otherwise unsound

The dissertation committee's report, with the student's grade records, is admitted as evidence of the student's advancement to candidacy. The student will be advised in writing of the approval of the research proposal and advancement to candidacy. Students are advised that proceeding with data collection prior to approval of the dissertation-project proposal entails significant risk. To initiate interview or survey research prior to approval of the proposal almost certainly will result in rejection of the proposed research.

Once candidacy is attained, the student must register for RES 9990 (Professional Dissertation-Project) before proceeding. A registration form is available from the Doctoral Studies office.

## The Dissertation Oral Review

Four copies of the completed dissertation, as approved by the dissertation director for committee review, are due at the Doctoral Studies Office by the following deadlines:

- For graduation in May, students must defend their dissertation by March 1<sup>st</sup> and revisions made by April 15<sup>th</sup> to take part in commencement
- For graduation in August, May 15
- For graduation in December, October 15

These copies should be printed on standard quality 20-pound paper. The Doctoral Studies Office will hold one copy and distribute the others to the dissertation director and the two readers. At that time a date will be set for the oral review.

The oral review will be chaired by the dissertation director, who will be joined by the two readers. The review will be open to other faculty persons, students, and guests, although their participation will be determined by the chair-person. The oral review will focus on the execution and findings of the dissertation-project, with particular attention to its significance for the theory and practice of ministry. The result of the oral review may be:

- **Acceptance of the dissertation-project** (The manuscript is considered acceptable as presented.)
- **Acceptance, with minor revisions required** (The dissertation-project is approved in substance, although specific corrections are required. Approval of the corrected manuscript is committed to the dissertation director.)
- **Tentative acceptance, with major revisions required** (The dissertation-project is judged to have merit, although significant problems in the execution of the project or its presentation are noted.)

Approval of the revised manuscript requires action by all members of the oral review committee. The committee, at its discretion, may require a second oral review of the revised manuscript.)

- **Disapproval of the dissertation-project** (The dissertation-project is deemed to be irreparably flawed, necessitating repetition of one or more major sections of the project or development of a new project. The dissertation director will continue to work with the student and a new oral review date will be set.)

## Submitting the Approved Dissertation

Following any necessary corrections or revisions the dissertation-project will be submitted for final approval and the signatures of the dissertation director and the two readers. The final copy submitted in fulfillment of degree requirements must be error-free, with no noticeable corrections. Review of the “Final Checklist” provided in Appendix F is highly advised.

A 300-500 word abstract will be included in the dissertation (not to be confused with the 100 word abstract required on the Research In Ministry, or RIM, form). This longer abstract should be placed immediately following the version statement. It should be typed double spaced and numbered with lower case Roman numerals along with the other “front matter.” A centered heading, "Abstract," should be placed two inches down from the top of the page. The abstract should be listed in the “Table of Contents.”

The order of the completed dissertation-project manuscript will be as follows:

Blank page  
Title page  
Blank page  
Approval page  
Blank page  
Table of Contents  
List of Illustrations (charts, maps, etc., if any)  
List of Tables (if any)  
Version Statement  
Abstract  
Blank page  
Text of paper  
Appendices (if any)  
Reference List  
Blank page

One print copy and two electronic copies of the corrected and approved dissertation must be submitted to the Doctoral Studies Office. Electronic copies will be submitted on compact disks (CDs) in Portable Document Format (PDF). The full title of the dissertation and the student’s name as it appears on the title page of the dissertation should be written clearly on each CD with permanent ink or printed on a CD label. This is necessary to facilitate classification and permanent filing. The print copy of the dissertation will be bound and returned to the student. (Some students may choose to have additional, personal copies bound to be presented as gifts to family members, to colleagues, or to the ministry with which they serve.) One electronic copy will be given to the dissertation director; the other will be housed in the Columbia International University library and will remain the property of the Seminary and School of Ministries. TREN will receive an electronic copy of the CD held by the CIU Library. Documents required by the CIU library that must be submitted to the Doctoral Studies Office with the original and electronic copies of the dissertation are listed in Appendix G.

## **Chapter 6: GUIDELINES FOR DISSERTATION WRITING**

Most Doctor of Ministry research does not fall under the provisions for research on human subjects, although research in the area of member care often does and other research may. When research explores data drawn from the emotional or spiritual life experiences of individuals, a biblical valuing of persons, as well as ethical and legal standard for research on human subjects, requires that the interests of participants in the study are protected. In addition, excellent research and scholarship may be dismissed if its presentation includes multiple grammatical, spelling, stylistic, or format errors. When dissertation directors demand high standards of research ethics and perfection in technical details, they protect the interests of the researcher.

### **Research on Human Subjects**

The Seminary and School of Ministries at Columbia International University is concerned with the protection of the rights and welfare of human subjects in all research and class projects. This concern includes the protection of rights to privacy, the need for informed consent, appropriate protection of confidentiality, protection from coercion, and protection from risks—physical, psychological, social, legal, or spiritual. The confidentiality of records and data collected on individuals and groups, the use of such data by the investigator conducting the original research or by other investigators, and the use of the data at a later time are all considered within the scope of this policy.

**The Human Rights in Research Committee** is comprised of three persons appointed by their respective deans from the faculties of the Seminary and School of Ministries, the College of Education, and the College of Counseling.

The purposes of the committee are to (1) insure the protection of the rights of all human subjects involved in research projects carried out by CIU faculty, staff, or students; (2) insure that research conducted by CIU faculty, staff, or students meets the standards required by government agencies, such as the U.S. Department of Health and Human Services; and (3) protect the researcher in cases where ethical issues are pertinent. The committee will address only aspects of research designs that entail risk to human subject or ethical concerns.

In cases where research involves minimal risk to human subjects, the committee's function is primarily administrative. It evaluates and gives permission to do the research. In cases where research involves more than minimal risk or where there is a discrepancy among the reviewers, arbitration involving the researcher and the reviewers will be resolved through the committee chairperson.

*All research projects must receive approval from the Human Rights in Research Committee **before** the research proposal is sent to a dissertation committee for approval and may be subject to further review if research design changes are required at the proposal hearing.*

### **Criteria for Approval of Research on Human Subjects**

1. Risks to subjects are minimized: (a) by using procedures which do not unnecessarily expose subjects to risk, and (b) whenever appropriate, by incorporating into the research design procedures already in use for diagnostic or treatment purposes.
2. Risks to subjects are reasonable in relation to anticipated benefits, if any, to the subjects, and the importance of the knowledge that reasonably may be expected to result.
3. Selection of subjects is equitable.

4. Informed consent will be sought from each prospective subject or the subject's legally authorized representative.
5. Informed consent will be appropriately documented.
6. When appropriate, the research plan provides for monitoring data collected to ensure the safety of others.
7. When appropriate, adequate provision is provided to protect the privacy of subjects and to maintain the confidentiality of data.
8. When some or all subjects vulnerable to coercion or undue influence, such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons, additional safeguards have been included in the study to protect the rights and welfare of these subjects.

### **Stylistic Guidelines**

As a formal research report, the dissertation should adhere to standards of formal English prose. The student should strive for a concise and lucid style, free from colloquialisms and jargon. (A helpful resource is Strunk and White, *The Elements of Style*, 4th ed.)

Careful observation of the following rules will avoid unnecessary work in manuscript editing.

1. Use accepted English grammar and punctuation.
2. Be economical with words.
3. Always separate headings with text.
4. Build each paragraph around a topic sentence.
5. Construct the opening and closing paragraphs of each section with care.
6. Develop a gender-neutral style.
7. Except for the first reference, refer to persons by surname only, avoiding titles.

The preferred spelling provided by *Webster's Third New International Dictionary of the English Language* (unabridged) is the standard for dissertation usage.

Students whose first language is not English, and others who lack English writing skills, may need to engage the services of a qualified English tutor and/or proofreader. *It is not the responsibility of the dissertation director (or readers) to correct style, grammar, or form. Papers which fall short of the seminary's standards will be returned to the student for correction prior to reading by the dissertation director.* Even draft chapters should be edited for style, grammar, punctuation, and spelling prior to submission to the student's dissertation director.

When either the dissertation director discovers that the student will need additional help in the use of English, the following guidelines will be followed:

1. The student will be informed that he/she needs the services of an English reader and that it is the student's responsibility to pay for such service.
2. The English reader is expected to note errors in spelling, grammar, and formatting in the initial draft. This draft is returned to the student with the needed corrections noted.
3. The student is responsible to observe these corrections in subsequent writings, including the final draft of the proposal and the initial drafts of the dissertation-project.
4. The Doctoral Studies Office will make available a list of qualified English readers that students may contact. The student is responsible to initiate contact with and to contract an English reader.

## Technical Guidelines

The dissertation should be prepared with meticulous attention to format standards set forth in Turabian, *A Manual for Writers of Term Papers, Theses, and Dissertations* (7th ed.). In matters of documentation, the required method to use is the parenthetical reference format of citation (described in Turabian, Chapter 9). It is to be employed in all dissertations. Working drafts should be error-free. If the services of a typist are secured, the student (rather than the typist) is responsible to assure that all conventions are observed.

A computer should be used for preparation of the dissertation manuscript as the computer will facilitate editing. In selecting word processing software, the student should assure that features available in the software meet the format requirements set forth in this Manual. A standard serif or sans serif **12 point** font should be used throughout the manuscript. It is not appropriate to change fonts, although content footnotes may be set in 10 point font.

**The length of the dissertation body is between 125 and 200 pages** with up to 50 pages allowed for appendices and the reference list. **The total maximum length accepted is 250 pages.**

A good quality laser or ink jet printer may be used for drafts. For quality of print, the student may choose to use a laser printer for copies to be bound. Beware, however, of format complications when switching printers!

The names of Bible books should be written in full when they occur in the text of the dissertation-project. The names of Bible books are abbreviated, however, when they occur as citations in parentheses. When appropriate, the following abbreviations should be used (without following periods):

Gen	Neh	Hos	Matt	1-2 Tim
Exod	Esth	Joel	Mark	Titus
Lev	Job	Amos	Luke	Phlm
Num	Ps [Plural Pss]	Obad	John	Heb
Deut	Prov	Jonah	Acts	Jas
Josh	Ecc1	Mic	Rom	1-2 Pet
Judg	Cant	Nah	1-2 Cor	1-2-3 John
Ruth	Isa	Hab	Gal	Jude
1-2 Sam	Jer	Zeph	Eph	Rev
1-2 Kgs	Lam	Hag	Phil	
1-2 Chr	Ezek	Zech	Col	
Ezra	Dan	Mal	1-2 Thess	

Multiple citations within a single parenthesis are separated by semi-colons; it never is correct to place two or more parentheses in succession, whether the cited references are biblical or bibliographic.

Footnotes (but not endnotes) may be used for content purposes, that is, to include relevant comments which otherwise might break the flow of thought in the body of the dissertation.

Margins must be one inch at the top, bottom, and right side; the left margin must be one-and-one-half inches for binding. The first page of each major section (i.e., Table of Contents, chapters, appendices, Reference List, etc.) must begin two inches from the top of the page. The right margin *should not* be justified.

Headings and sub-headings which are "centered" should be centered on the text rather than on the page. Two blank lines should precede headings and one blank line (i.e., a normal "double space") should separate a heading from the following text.

Page breaks should be planned (or inserted) to provide at least two lines of a paragraph on each page. (Most word processing programs include a "widows and orphans" feature which is helpful in this regard.) Headings should not be separated by a page break from the text that follows. If the normal occurrence of a page break would

result in a "stranded line" or an isolated heading, it is permissible to shorten the text on one page. If the shortened page carries a footnote or page number, however, they should be positioned as if a full page of text were present—i.e., the extra white space appears above, rather than below, the footnote material.

Samples of the title page, approval page, and version statement are found in Appendix E.



**Appendix A:**  
**BASIC OUTLINE FOR A DISSERTATION-PROJECT PROPOSAL**

Section 1            The Problem Stated

- A. Introduction: Context of [i.e., which gives rise to] the Problem
- [B.] Disciplines (and Other Contexts) which Inform or Shape the Research
- C. Purpose of the Study
- D. Research Questions
- E. Delimitation of the Problem
- [F.] Assumptions
- [G.] Definition of Terms
- [H.] Limitations of the Study
- I. Importance of the Study for Others and for Personal Ministry
- J. Outline of the Dissertation Proposal

Section 2            Precedent Research

- A. Organization of the Present Chapter
- B. Precedent Research
- C. Chapter Summary [very brief]

Section 3            Research Methodology

- A. Description of the Research Method
- B. Overall Research Strategy (Step-by-step plan)
- [C.] Collection of Data
- D. Population
- [E.] Sampling
- [F.] Instrumentation (Sample instrument[s] in Appendix)
- [G.] Validation of the Instrument
- H. Sequence of the Process.
- [I.] Plan for Interpretation or Analysis of Data (e.g., Statistics)
- [J.] Plan for Presenting Findings (e.g., Use of Tables or Graphs)
- K. Chapter Summary

Appendices

- A. Availability of Research Resources
- B. Tentative Outline of the Dissertation
- C. Tentative Schedule for Completion
- D. The Researcher's Curriculum Vitae
- [E.] Sample Letters to Survey Participants
- [F.] Sample Instruments

Reference List

## **Appendix B:**

### **BASIC OUTLINE FOR A DISSERTATION-PROJECT**

- Chapter 1            The Problem Stated
- A. Introduction: Context of [i.e., which gives rise to] the Problem
  - [B.] Disciplines (and Other Contexts) which Inform or Shape the Research
  - C. Purpose of the Study
  - D. Research Questions
  - E. Delimitation of the Problem
  - [F.] Assumptions
  - [G.] Definition of Terms
  - [H.] Limitations of the Study
  - I. Importance of the Study for Others and for Personal Ministry
  - J. Outline of the Dissertation
- Chapter 2            Precedent Research
- A. Organization of the Present Chapter
  - B. Presentation of the Precedent Research Base
  - C. Chapter Summary (very brief)
- Chapter 3            Research Methodology
- A. Description of the Research Method
  - B. Overall Research Strategy (Step-by-step plan)
  - [C.] Collection of Data
  - D. Population
  - [E.] Sampling
  - [F.] Instrumentation (Sample instrument[s] in Appendix)
  - [G.] Validation of the Instrument
  - H. Sequence of the Process.
  - [I.] Plan for Interpretation or Analysis of Data (e.g., Statistics)
  - [J.] Plan for Presenting Findings (e.g., Use of Tables or Graphs)
  - K. Chapter Summary
- Chapter 4            Research Findings
- A. Organization of the Present Chapter
  - B. Report of Findings [by Research Question]  
    [Illustrated with tables and charts, when appropriate.]
  - C. Interpretation or Discussion of Research Findings
  - D. Theological Reflection on the Findings
  - E. Chapter Summary (very brief)
- Chapter 5            Conclusions and Recommendations
- A. Brief Summary of Chapters 1 through 4
  - B. Recommendations for Ministry Practice

- C. Recommendations for Future Researchers
- D. Chapter Summary

Appendices

Reference List

**Appendix C:**  
**NOTES ON KATE L. TURABIAN'S**  
*A Manual for Writers of Term Papers, Theses, and Dissertations*  
**Seventh Edition**

The CIU Seminary and School of Ministry faculty has adopted Turabian's *Manual* as the standard for papers, theses, and dissertations. The student will do well to familiarize herself or himself with this reference tool.

**Sections Deserving Special Notice**

- 15.3 D.Min. papers and dissertations will employ the "reference list" style. See Chapter 18 for rules and Chapter 19 for examples.
- 18.1 Note carefully the standards for reference list style. Since standards for capitalization and italicization of titles, series, chapters, articles, and journals may surprise you, note especially 18.1.3 and 18.1.4 and study the examples in Figure 18.1. When using of titles in languages other than English, see 19.1.3 (p 237).
- 18.2.1 In the reference list, authored, edited, and translated works by a single author are listed together, followed by coauthored works (alphabetically by the coauthor's name). Note (p 221) that in successive entries of works by a single author, the author's name is replaced by three *em* dashes. Note also (p 222) that multiple works by the same author in the same year of publication should be arranged alphabetically by title and distinguished by alpha-suffixes attached to the date.
- 18.3.1 Note the location of parenthetical references with respect to punctuation. Note also that the parenthetical reference follows the final punctuation in block quotes.
- 20.3 Hyphenated words
- 20.4 The general rule for line breaks and hyphenation  
Papers submitted to CBS *should not* employ justified right margins  
Note that hyphenation *should* be used to avoid an inappropriately ragged right margin. Avoid hyphenation of Biblical Hebrew or Greek. (For German text, German hyphenation conventions should prevail.)
- 21.7.2 There are many incorrect ways to type a dash; note the correct way
- 21.11.2 Punctuation with quotation marks  
Note that in each case there is *a* correct usage
- 23.1.1 The general rule for the use of numbers in text  
Note, also, the many exceptions (23.2-9)
- A.2.2 Format for section headings (p 398). Note carefully the capitalization conventions.  
Note the rule for spacing above and below headings in text.

### **Modifications of Turabian's Standards**

- 16.3 Turabian's section on "Notes" in the 7<sup>th</sup> edition is not particularly helpful. Here's the rule: Citations are placed in parentheses. If "substantive comments" are needed, place them in footnotes; endnotes are not used in CIU dissertations.
- 22.0 As Turabian notes, underlining is used only when italics are unavailable. Since italics are used in dissertations submitted to CIU, underlining *should not be used*.
- 25.2.2 In the 7<sup>th</sup> edition, Turabian deviates from earlier standards for blocked quotations. Now the rule is to block quotations of "five or more lines." For dissertations submitted to CIU, block quotations of *four* or more lines *and* two or more sentences. Thus, a five-line quotation that is a single sentence is not blocked. Note standards for indentation and line spacing in blocked quotations.
- A.2.2 Contrary to Turabian's provision, students should not "devise [their] own typography and format for [headings]." Dissertations submitted to CIU will follow the typography and format standards included in this section. If fewer than five levels of headings are needed, students may select which "levels" will be used (e.g., 1, 3, and 5), provided the order of levels is preserved. Avoid using bold to emphasize headings of lower rank than others which are not bolded (p398). Thus, "Third Level" headings should be italicized, but *not* bolded. An exception: "Fifth Level" headings, when used, must be bolded to set them off from the paragraph into which they are merged.

**EXCEPT AS NOTED ABOVE, STANDARDS INDICATED BY TURABIAN WILL BE OBSERVED IN PROPOSALS AND DISSERTATIONS SUBMITTED TO THE FACULTY OF COLUMBIA INTERNATIONAL UNIVERSITY SEMINARY AND SCHOOL OF MINISTRIES.**

## **Appendix D: TURABIAN FORMATTING AND PAGINATION IN *MS Word 2007***

### **For One Section Per Document File:**

1. Set your cursor at the top of the first page of your document
2. If the command ribbon is minimized, double click "Page Layout" to expand the ribbon
3. Click the expansion arrow in the lower right corner of the "Page Setup" box
4. The "Margins" tab should be open. Set margins at: Top = 1.3; Bottom = 1.2; Left = 1.5; Right = 1.0
5. Click the "Layout" tab. Verify (or set) the following:
  - Section Start = "New Page"
  - Check [] "Different first page"
  - From edge:       Header = 1.0
  - Footer = 1.0
  - Apply to: "Whole document"
6. Click "OK"
7. Move the cursor to the bottom margin of the first page of your document and double click. This will open the footer.
8. With the cursor in the footer area, click the "Home" tab on the command ribbon and click to center text.
9. Click the "Insert" tab on the command ribbon and click "Page Number" in the "Header & Footer" box.
10. Select "Current Position" from the dropdown menu and select "Simple, Plain Number"
11. Move the cursor to the second page of your document and click in the header area.
12. With the cursor in the header area, click the "Home" tab on the command ribbon and click to right justify text.
13. Click the "Insert" tab on the command ribbon and click "Page Number"
14. Select "Current Position" from the dropdown menu and select "Simple, Plain Number"
15. Return to the top of your document and double click on the first line of text (e.g., "Chapter One").
16. Space down to provide a 2" top margin on the first page. Your document should be formatted in "Turabian Style."

### **If You Need To Reset Pagination In Your Document (i.e., If Page Numbers Are Wrong):**

17. Move the cursor to the footer of the first page of your document and double click to open the footer.
18. Click on the wrong page number.
19. Click the "Insert" tab on the command ribbon and select "Page Number" from the "Header & Footer" box.
20. Click "Format Page Number"
21. Select "Start At" and set the correct number for the first page of your document.
22. Click "OK." Pagination now should be correct throughout your document.

### **For Multiple Sections In a Single Document:**

1. Follow the instructions above to format a document in "Turabian Style."
2. Place the cursor at the bottom of the last page of the first section.
3. Click the "Page Layout" tab on the command ribbon.
4. Click "Breaks" in the "Page Setup" box.
5. In the dropdown menu, select "Section Breaks, Next Page"
6. Click the expansion arrow in the lower right corner of the "Page Setup" box
7. Click the "Layout" tab. Verify (or set) the following:
  - Section Start = "New Page"
  - Check [] "Different first page"

From edge: Header = 1.0

Footer = 1.0

Apply to: "This section"

8. Click "OK"
9. Move the cursor to the top margin of the first page of the new section (or chapter) and double click. This will open the header.
10. Delete the page number in the header.
11. Double click on the first line of text in the second section of your document (e.g., "Chapter Two").
12. Space down to provide a 2" top margin on the first page of this chapter.
13. Repeat steps 2 -12 for each new section (or chapter). Your document should be formatted in "Turabian Style."

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Sample Pages**

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**[TITLE OF DISSERTATION-PROJECT]**

(2.25 inches from top)

(bold, capitalized, properly centered,  
two or more lines if necessary)

by

(3.5 inches)

[student's name]

(4 inches)

A Dissertation-Project

(5.25 inches)

submitted in partial fulfillment of the requirements

for the degree

Doctor of Ministry

Seminary and School of Ministry

(7.25 inches)

Columbia International University

Columbia, South Carolina

[month and year]

(9.5 inches)

**APPROVAL**

(2.5 inches from top)

This Dissertation-Project, entitled

(3.25 inches)

[TITLE OF PROJECT]

[properly centered, two lines or more if necessary]

by

[student's name]

Candidate for the degree of

Doctor of Ministry

has been read and approved by

(6.75 inches)

*[blank for signed original and Director's name typed for electronic copy]*

*[blank for signed original and Reader's name typed for electronic copy]*

*[blank for signed original and Reader's name typed for electronic copy]*

on

*[blank for signed original and date typed for electronic copy]*

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(2 inches from top)

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[Sample Version Statement: In order to simplify biblical citations, the student should adopt one version of Scripture as the “assumed” translation, varying from that version only as necessary. The assumed translation, except as noted, is identified in the Version Statement.]

Unless otherwise noted  
all Biblical quotations are from  
The Holy Bible, English Standard Version  
Crossway Bibles  
2001

(4 inches from top)

**RESEARCH FINDINGS**

In this chapter the researcher will report findings from the interviews of thirty church leaders from the ten Brethren churches that met the research criteria in order to answer the question, “How does the church leaders’ relationship with God the Holy Spirit influence their churches numerical growth?” Three research questions address and amplify research question:

RQ<sub>1</sub> What is the church leaders’ understanding of a healthy spiritual relationship with God the Holy Spirit?

RQ<sub>2</sub> What is the church leaders’ perception of effective spiritual leadership?

RQ<sub>3</sub> What do church leaders perceive to be the major influence on numerical growth in their churches?

**Demographic Information**

Ten churches were purposefully selected that met research requirements. All churches interviewed had over three hundred in attendance or on their church directory or prayer list (see Table 1). The attendance figures were made up of adult believers, children, as well as seekers.

All the churches selected had a perceived positive reputation among their local communities. They also had a positive reputation among the Brethren Christian community as churches that were progressive, relevant, and outreach focused.

TABLE 1. Church Population Statistics

Church	Church Population 2002	Church Population 2007	Five Year Population Increase	Average Increase per Year	% Growth Over Five Years
A	375	650	275	55	73%
B	550	770	220	44	40%
C	150	670	520	104	347%
D	393	450 <sup>a</sup>	57 <sup>a</sup>	14 <sup>a</sup>	15% <sup>a</sup>
E	417	468 <sup>b</sup>	51	13 <sup>b</sup>	12% <sup>b</sup>
F	250	342	92	18	37%
G	200	360	160	32	80%
H	250	390	140	28	56%
I	600	1000	400	80	67%
J	200	300	100	20	50%

Churches ‘A,’ ‘B,’ ‘D,’ ‘G,’ and ‘H’ are churches that have been established for more than twenty-five years in rural towns. Rural churches struggle with transient memberships. As children become college age they move away to the cities for college or work, and sometimes entire families will move to keep the family together.

---

<sup>a</sup> After the research was complete the author was informed that the actual church population was only 362, not 450 as thought. This meant that the church had actually declined in population, not grown. On further investigation it was discovered that the population was greater in 2006, but the church had since lost a number of families who moved to the city for education. In 2002 the church population was 393, with children making up 152 of that population. As this did not skew the research at all the author has decided to leave the church as part of the original sample population.

<sup>b</sup> These statistics have been taken from 2002-2006, making a four-year period instead of a five-year period. In August 2006 eighty people branched off from Church ‘E’ as part of a church plant to another part of the city.

## REFERENCE LIST

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- Bruce, F. F. 1964. *The epistle to the Hebrews: The English text with introduction, exposition and notes.* The New International Commentary on the New Testament. Grand Rapids: Eerdmans.
- \_\_\_\_\_. 1971. *1 and 2 Corinthians.* New Century Bible. London: Oliphants.





[Note that the following example limits the number of response options that may be selected]

Three sources most commonly used by the faculty of our seminary for deriving teaching/learning objectives:

- \_\_\_ Analysis of the course subject or discipline
- \_\_\_ Analysis of the learning task
- \_\_\_ Official course description
- \_\_\_ Professional experience in ministry
- \_\_\_ Professional research interests
- \_\_\_ Students' background and experience
- \_\_\_ Students' sense of a "need to know"
- \_\_\_ Theological commitments regarding ministry

**Rating Items –**

[“Likert scales,” the most common form of rating items, have five response options.]

This quality is consistent with the declared goals of our seminary.

- |          |   |   |   |   |   |  |  |  |  |          |
|----------|---|---|---|---|---|--|--|--|--|----------|
| Strongly |   |   |   |   |   |  |  |  |  | Strongly |
| Agree    | 1 | 2 | 3 | 4 | 5 |  |  |  |  | Disagree |

[Seven-point “Likert-like scales” also afford a non-committal mid-point and allow three degrees of certainty on either side of the mid-point.]

Do theological schools in your region already demonstrate contextualization to a high degree?

- |         |   |   |   |   |   |   |   |        |
|---------|---|---|---|---|---|---|---|--------|
| None Do | 1 | 2 | 3 | 4 | 5 | 6 | 7 | All Do |
|---------|---|---|---|---|---|---|---|--------|

[Four-point scales constitute a form of forced choice rating, since they include no mid-point.]

Missionaries should be prepared to accept the role of “religious experts” in their context of ministry.

- |          |   |   |   |   |  |  |  |          |
|----------|---|---|---|---|--|--|--|----------|
| Strongly |   |   |   |   |  |  |  | Strongly |
| Agree    | 1 | 2 | 3 | 4 |  |  |  | Disagree |

[Six-point scales also present respondents with a forced choice, but allow a wider range of positive or negative response.]

Only proclamation ministries are truly missional.

- |          |   |   |   |   |   |   |  |          |
|----------|---|---|---|---|---|---|--|----------|
| Strongly |   |   |   |   |   |   |  | Strongly |
| Agree    | 1 | 2 | 3 | 4 | 5 | 6 |  | Disagree |

### Ranking Items –

Rank the following to indicate the priority assigned when determining the orthodoxy of a theological statement (1 = Highest priority; 5 = Lowest priority):

- \_\_\_ Cultural acceptability
- \_\_\_ Support in writings of the Ante-Nicene and Post-Nicene church fathers
- \_\_\_ Congruence with viewpoints of a preferred school of theology
- \_\_\_ Biblical-exegetical support
- \_\_\_ Congruence with denominational tradition

[If pilot testing indicates more than seven significant responses, it is advisable to require respondents to select and rank a limited set of response alternatives. Caution: When instructions are complex, the rate of useable responses may be negatively affected.]

Listed below are eight sources sometimes used by theological educators for deriving teaching/learning objectives. Select the three sources most commonly employed by the faculty of our seminary and rank those sources (1 = Most frequently employed; 2 = Next most frequently employed; 3= Third most frequently employed). Select and rank three sources only; sources not selected may be left blank.

- \_\_\_ Analysis of the course subject or discipline
- \_\_\_ Analysis of the learning task
- \_\_\_ Official course description
- \_\_\_ Professional experience in ministry
- \_\_\_ Professional research interests
- \_\_\_ Students' background and experience
- \_\_\_ Students' sense of a "need to know"
- \_\_\_ Theological commitments regarding ministry

### The Use and Analysis of Survey Instrument Items

#### Open Response Items –

- |                         |  |
|-------------------------|--|
| Description:            | Items for which responses are unrestricted.  |
| Type of Analysis:       | Content analysis   |
| Analysis Procedure:     | Review all responses; group similar responses together; count the number of responses in each group.   |
| Descriptive Statistics: | Frequency count (f.); percent  |
| Cautions:               | Infrequent responses (e.g., < 5) may be reported as an unclassified group. Do not group responses too broadly or too narrowly; the resulting list should contain a reasonable number of response categories (8-10 if < 100 responses, 10-15 if > 100 responses), and with not more than 10% of responses unclassified. |

#### Multiple Choice Items, Forced Choice Items--

- |                         |  |
|-------------------------|--|
| Description:            | Items for which a limited number or response options are presented, from which respondents select one. |
| Analysis Procedure:     | Tally responses by option  |
| Descriptive Statistics: | Frequency (f.); percent  |
| Cautions:               | Do not tally multiple responses for any item.  |

Checklist Items--

Description: Items for which a limited number or response options are presented, from which respondents select an unlimited number.  
 Analysis Procedure: Tally responses by option  
 Descriptive Statistics: Frequency (f.)

Rating Items, Opinion Scales, Likert Scales--

Description: Items for which responses are reported as points on a fixed scale.  
 Analysis Procedure: Compute mean and standard deviation for each item  
 Descriptive Statistics: Mean; standard deviation  
 Cautions: If several rating items are included, be sure "desirable" responses are stated at similar ends of the scales

Ranking Items--

Description: Items for which responses indicate ranked data.  
 Analysis Procedure: Compute weighted scores [See illustration of computation in the next section.]  
 Descriptive Statistics: Weighted score; cumulative rank  
 Cautions:

**Analyzing Verbal Data: Content Analysis –**

“Content analysis” is commonly used in analyzing responses to open response items. The researcher reviews responses, focusing on the perspective of respondents rather than on verbal expression, and identifies unique perspectives the population or sample. Responses, then, are sorted and reported by response categories. The following example is taken from Ferris, 1990, p 38.

<b>Factors Proposed as Contributing to Renewal</b>			
<b>n = 161</b>			
<b>Factors</b>	<b>f.</b>	<b>%</b>	<b>Valid %</b>
Refocus on serving the church	26	18.1%	17.9%
Refocus on addressing cultural issues	22	13.7%	15.2%
Stronger integration of theology and practice	22	13.7%	15.2%
Stronger emphasis on Bible and theology	20	12/4%	13.8%
Stronger emphasis on ministry skills	15	9.9%	10.3%
Stronger emphasis on spiritual formation	10	6.2%	6.9%
Refocus on evangelism and missions	9	5.6%	6.2%
Stronger emphasis on scholarship	7	4.3%	4.8%
Other (Fewer than 4% per category)	14	8.7%	9.7%
No response	18	9.9%	0%
<b>TOTAL</b>	<b>161</b>	<b>100.0%</b>	<b>100.0%</b>

## Analyzing Numeric Data

### Weighted Scores for Ranked Data

In the illustration following, thirty respondents (N=30) are asked to rank five options on a scale of 1-5, on which 1 is the highest and 5 is the lowest. Responses are tallied and the frequency of each response is recorded. Frequency counts, then, are multiplied by a multiplier that is the inverse of the ranked values assigned to obtain weighted scores (ws). The weighed scores for each option are summed to obtain cumulative weighted scores that reflect the rank of the options across the population of respondents.

		Assigned Rank					Σws	Cumulative Rank
Scale Multiplier		1	2	3	4	5		
		f. • 5	f. • 4	f. • 3	f. • 2	f. • 1		
Option A	f.	15	6	3	2	2	114	2
	ws	75	24	9	4	2		
Option B	f.	4	6	8	7	8	90	3
	ws	20	24	24	14	8		
Option C	f.	2	3	5	7	6	57	5
	ws	10	12	15	14	6		
Option D	f.	6	9	12	9	11	131	1
	ws	30	36	36	18	11		
Option E	f.	3	6	2	5	3	58	4
	ws	15	24	6	10	3		

## Descriptive Statistical Notations and Formulae

### Common Statistical Notation

**N** = Number of subjects in a population

**n** = Number of subjects in a sample

**Σ** = Sum

**μ** = Mean

**Φ** = Standard Deviation

**Δ** = Correlation coefficient

### Illustration of Descriptive Statistics (with Formulae)

<u>Student</u>	<u>Age</u>	
1.	52	N = 12
2.	52	Σ = 456
3.	41	Range = 27:52
4.	38	Median = 37.5
5.	38	Mode = 35, 38 (bi-modal)
6.	38	Mean = $\Sigma/N = \mu$ 456/12 = 38
7.	37	Φ = 7.3598 (see computation below)
8.	35	
9.	35	
10.	35	
11.	28	
12.	<u>27</u>	
	456	

Computation of standard deviation

$X$	$x = X - \mu$	$x^2$	
52	14	196	
52	14	196	
41	3	9	
38	0	0	
38	0	0	
38	0	0	
37	-1	1	
35	-3	9	
35	-3	9	
35	-3	9	
28	-10	100	
27	-11	121	
		<u>121</u>	
		$\Sigma x^2 = 650$	

Variance =  $\Sigma x^2 / N = 650 / 12 = 54.167$

$\Phi = \sqrt{\text{Variance}} = \sqrt{54.167} = 7.3598$

**Standard Scores**

**Percentile Rank**

The following table illustrates the use of percentile rank. Note that each percentile rank score is the sum of the percentage value of that measurement and of those below it.

**Height of 12 Year Old Boys per 100,000 Population**

Height	f.	%	% Rank
> 69"	10	0.01 %	100.00 %
69"	130	0.13 %	99.99 %
66"	2,140	2.14 %	99.86 %
60"	13,590	13.59 %	97.72 %
54"	34,130	34.13 %	84.13 %
51"	34,130	34.13 %	50.00 %
45"	13,590	13.59 %	15.87 %
39"	2,140	2.14 %	2.28 %
36"	130	0.13 %	0.14 %
< 36"	10	0.01 %	0.01 %

**z-Scores**

A z-score states the value of a measurement in standard deviation units. Z-scores are used to compare measurements of two populations of different size. The formula for computing z-scores is:

$$Z = \frac{x - \mu}{\Phi}$$

When x is a score to be standardized, and  $\mu$  and  $\Phi$  are population parameters.

**Appendix G:**  
**Informed Consent Form for Research on Human Subjects**  
[Additional Information To Be Inserted As Indicated]

1. [Name of Student], a student in the Doctor of Ministry Program at Columbia International University (Columbia, South Carolina, USA), is conducting research on [Research Topic]. The research seeks to [Purpose of the Study]. Persons interviewed as part of this project will be asked for [Estimated Time] minutes of their time for conversation on [Topic of the Study]. Nothing else will be required of you.
2. You are not expected to experience any foreseeable risks or discomforts. You may choose not to answer any question. [Note: If topics are potentially sensitive, this must be explained.]
3. Your participation is expected to be significant to the overall goals of the research project, which is designed to be of assistance to [Beneficiaries of the Study].
4. All topics discussed in the interview will be strictly confidential. All materials gained will be collated with interviews from other participants. No attributed or attributable quotations will be used in the research report.
5. Participation in this project is strictly voluntary. The researcher is pursuing this research in a purely personal capacity. No personal information will be shared with [Sponsoring Church or Mission] or other organizations.
6. Interviews will be recorded for coding and analysis and will be retained by the researcher in full confidence. [May be omitted if interviews are not recorded.]

NOTE: By signing below, you acknowledge that you have read and understand the conditions stated above, that you have chosen to participate in this research free of any form of coercion, and that you release your right to review information you provide for this study.

\_\_\_\_\_ (Signature)  
[Name of Researcher]  
Researcher  
\_\_\_\_\_ (Printed Name)

\_\_\_\_\_ (Date)  
(Date) \_\_\_\_\_

If you feel that the research does not follow the stated protocol or you have questions about the protocol and your rights as a research subject, you may contact [Name of Dissertation Director], project advisor, at Columbia International University, Columbia, South Carolina, USA [dissertation director's office phone number and electronic address].

Researcher Contact Information:  
[Your name and electronic address]

## **Appendix H: Final Edit Checklist**

- Margins are not violated by text, tables, diagrams, page numbers, or footnotes
- Each major section (e.g., Table of Contents, chapter, appendix, Reference List) begins two inches from the top of the page
- Page numbers are centered, one inch from the bottom of the first page of each major section and are in the upper right corner of all other pages, one inch from the top and right edges of the page
- Page numbers in the Table of Contents (and the List of Tables or Illustrations, if applicable) correspond to the actual pages in the dissertation.
- The document is free of “widows” and “orphans”
- Placement and format of headings conforms
- Two blank lines precede each heading and one blank line (a normal “double space”) separates each heading from the following text
- Headings appear on the same page with their following text
- Spelling of names is consistent throughout the document
- All* cited sources are included in the Reference List
- The Reference List includes *only* cited sources
- 

Things to do before presenting a dissertation to the Library:

1. Check pagination to be sure it is correct and consistent;
2. Dissertation must be one document; it cannot be in different files;
3. Write the title and author on the CD (make sure it is the same as on the title page of the dissertation itself); or make a printed CD label containing that information;
4. The “approval page” must contain the name of the director and both readers (typed);
5. Dissertation must be presented in Microsoft Word or PDF. If converting it to PDF before submitting it, it must be an unlocked and printable version, using a licensed version with no logo on the pages.

**Appendix I:**  
**Forms to Be Submitted with the Approved Dissertation**

Microfilm Distribution Agreement for TREN ..... 56

Library Check list – Binding dissertation ..... 57

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