

CDCSEP Dissertation and Thesis Guidelines

The Sections of a Dissertation or Thesis

Introduction (Chapter 1)

This chapter "introduces the topic, provides a brief overview, and then states the research problem" (Cone & Foster, 2006, p. 84). The student should "present sufficient information ... for the reader to understand why the research question is important without being redundant with" Chapter 2 (Cone & Foster, 2006, p. 84).

Literature Review (Chapter)

This should be a "... complete review of literature relevant to your specific topic ... Write the literature review that you will included in the final version of your thesis or dissertation. (The final write-up will also include the few new studies that get published while the work is in progress. . .) The modal length of a literature review for a dissertation varies from about 20 to 50 pages" (Cone & Foster, 2006, pp. 84-85). It should be shorter than this for a thesis.

According to the APA (2010, p. 247), this section should include:

1. The importance of the problem:
 - a. Theoretical or practical implications
2. Review of relevant scholarship:
 - a. Relation to previous work
 - b. If other aspects of this study have been reported on previously, how the current report differs from these earlier reports
3. Specific hypotheses and objectives:
 - a. Theories or other means used to derive hypotheses
 - b. Primary and secondary hypotheses, other planned analyses
 - c. How hypotheses and research design relate to one another

Method (Chapter 3, Quantitative Analysis)

The "method section should provide sufficient details so that anyone reading it would be able to replicate your study in all essential aspects ... There are a number of subsections that are included in nearly any method section .. Exactly what content you cover, and in what order, will depend on your study ... most method sections are 15 to 25 pages long for dissertations" (Cone & Foster, 2006, pp. 85-86). Again, theses may be shorter.

Participants. In this section, three questions should be addressed (Cone & Foster, 2006, p. 129):

1. Who will participate?
2. How many will participate, and
3. How will they be selected?

According to the APA (2010, p. 247), this section should include:

1. Eligibility and exclusion criteria, including any restrictions based on demographic Characteristics.
2. Major demographic characteristics as well as important topic-specific characteristics (e.g., achievement level in studies of educational interventions) ...

Sampling procedures. This is not always a separate section as sampling procedures are sometimes subsumed under Participants.

According to the APA (2010, p. 247), this section should include:

1. Procedures for selecting participants, including:
 - a. The sampling method if a systematic sampling plan was implemented
 - b. Percentage of sample approached that participated
 - c. Self-selection (either by individuals or units, such as schools or clinics)
2. Settings and locations where data were collected
3. Agreements and payments made to participants
4. Institutional review board agreements, ethical standards met, safety monitoring

Sample size, power, and precision. This is not always a separate section as sample size, power, and precision are sometimes subsumed under Participants.

According to the APA (2010, p. 248), this section should include:

1. Intended sample size
2. Actual sample size, if different from intended sample size
3. How sample size was determined:
 - a. Power analysis, or methods used to determine precision of parameter estimates
 - b. Explanation of any interim analyses and stopping rules

Measures. According to the APA (2010, p. 248), this section should include:

1. Definitions of all primary and secondary measures and covariates ...
2. Information on validated or ad hoc instruments created for individual studies, for example, psychometric and biometric properties

Procedure. The APA (2010, p. 248) does not include this as a separate section, but it is a standard one, and includes:

1. Methods used to collect data
2. Methods used to enhance the quality of measurements:
 - a. Training and reliability of data collectors
 - b. Use of multiple observations

Research design. This is not always a separate section as it is sometimes subsumed under Procedure.

According to the APA (2010, p. 248), this section should include:

1. Whether conditions were manipulated or naturally observed
2. Type of research design

In a proposal, planned statistical analyses also belong at the end of the methods section. This includes any preliminary statistics, such as checking reliability, examining distributions of scores, etc. Additionally is a description of each analysis to be conducted to address the research hypotheses. Make clear what the independent and dependent variables are for each analysis, and how these variables are comprised (e.g., scale score for anxiety on one of the instruments, standardized scores, etc.).

Method (Chapter 3, Qualitative Analysis)

1. Research Questions—identify the questions you expect to answer with your project.
2. Philosophical Paradigm –identify and discuss the philosophical paradigm that will guide your study. Justify in terms of your research questions. One example of choices of philosophical paradigm includes Guba and Lincoln’s (1994) discussion of positivism, post-positivism, constructivism, critical theory. Please note that the philosophical paradigm of qualitative inquiry is different from the theoretical base for your topic.
3. Research Design –identify and discuss your choices of design. Justify in terms of your research questions. E.g., case study, ethnography, interview, participant observation, oral history, conversation analysis, whether study is developmental in design using a cross-sectional, longitudinal, or sequential design.
4. Researcher as Instrument (also known as reflexivity)—this is an important statement about your position vis a vis:
 - a. Your training with the topic and group that is being studied
 - b. Your training and experience with qualitative research
 - c. Assumptions, biases, and expectations that you bring to the study and how you will manage them (memos, research teams)
5. Participants
 - a. Who are they? E.g., age, race/ethnicity, social class; how many
 - b. How will you select participants (also known as selection criteria)?
 - c. How will you protect your participants’ confidentiality and privacy?

6. Procedures

- a. Type of sampling (e.g., snowball, purposive, random); entry strategies
- b. Sources of data (also known as instruments). E.g., interview protocols, observational protocols, census data); you may want to discuss your “measures” here
- c. Data collection procedures—step by step plan for how you will collect data
- d. Data analysis procedures—step by step plan for how you will create results (you may want to discuss your “measures” here, if not in 6b)
- e. Trustworthiness--choose a model of research trustworthiness and defend your methods in terms of it. E.g., Krefting (1996) credits Guba (1981) for naming four elements of trustworthiness: credibility, transferability, dependability, and confirmability. These correspond roughly to internal validity, external validity, reliability, and objectivity in a quantitative inquiry. Various strategies are advocated to establish each of these.
 - Credibility—prolonged and varied field experience, time sampling, reflexivity, triangulation, member checking, peer examination, interview technique, establishing authority of researcher, structural coherence, referential adequacy
 - Transferability—nominated sample (e.g., panel of authorities), comparison of sample to demographic data, time sample, dense description
 - Dependability—use of an external auditor, dense description of research methods, stepwise replication, triangulation, peer examination, code-recode procedure (or split-half coding)
 - Confirmability—use of an external auditor, triangulation, reflexivity (generally, how well could another researcher follow your decision trail?)

7. Limitations

- a. Discuss the limitations of your choice of philosophical paradigm, research design, and procedures in terms of your anticipated results
- b. Discuss the limitations of your experience with the topic and anticipated participants in terms of your anticipated results
- c. Make sure that your discussion of limitations does not consist of an apology for using qualitative methods. It should be a thoughtful analysis of how your choices (of philosophical paradigm, of participants, of research design) limit what you expect to find.

N. B. Structural coherence in writing is a consistently sounded theme in commentaries about qualitative inquiry. To that end, the *order* of elements presented here may be somewhat variable, conditioned on dissertation committee chair approval.

Results (Chapter 4, Quantitative Analysis)

Please note that any descriptive statistics run on demographic variables describing the sample belong under Participants, not under Results.

According to the APA (2010, p. 248), this section should include:

1. Information concerning problems with statistical assumptions and/or data distributions that could affect the validity of findings
2. Missing data:
 - a. Frequency or percentages of missing data
 - b. Empirical evidence and/or theoretical arguments for the causes of data that are missing, for example, missing completely at random (MCAR), missing at random (MAR), or missing not at random (MNAR)
 - c. Methods for addressing missing data, if used
3. For each primary and secondary outcome and for each subgroup, a summary of:
 - a. Cases deleted from each analysis
 - b. Subgroup or cell sample sizes, cell means, standard deviations, or other estimates of precision, and other descriptive statistics
 - c. Effect sizes and confidence intervals
4. For inferential statistics (null hypothesis significance testing) information about:
 - a. The a priori Type I error rate
 - b. Direction, magnitude, degrees of freedom, and exact p -level, even if no significant effect is reported
5. For multivariate analytic systems (e.g., multivariate analyses of variance, discriminant function analysis, regression analyses, structural equation modeling analyses, and hierarchical linear modeling) also include:
 - a. The associated variance-covariance (or correlation) matrix or matrices
 - a. Estimation problems (e.g., failure to converge, bad solution spaces), anomalous data points
 - b. Statistical software program, if specialized procedures were used [Note: this does not refer to SPSS]
2. Report any other analyses performed, including adjusted analyses, indicating those that were pre-specified and those that were exploratory (though not necessarily in level of detail of primary analyses)

Results (Chapter 4, Qualitative Analysis)

Qualitative research, by definition, is subjective and open to the interpretation of the researcher. In the results section, the researcher must convey his or her interpretation of the data and provide rationale to support the interpretation. Although this section of the research report affords the researcher to assert some personal insights, the researcher must take care to stay focused and connect the data to the conclusions.

1. Cluster like concepts in data reporting. This will bring clarity to reporting. Interpretations and supporting data should be reported in an order that runs from most important to least important. Additionally, results should be presented in a logical or sequential way so as to facilitate transition from one concept to another.
2. Match data appropriately with themes and other consistencies identified in your literature review such as a typology or conceptual scheme or research questions so that a connection between data and stated themes is established. For instance, if reporting on differences between instructional and non-instructional teacher-student interactions, organize your results into those two categories (i.e., instructional and non-instructional teacher-student interactions).
3. Regardless of the specific format of your results section, always provide data (e.g., descriptions, quotes, data from multiple sources) that back up your assertions. It may be useful to use diagrams, matrices, tables, or figures to illustrate the results.

Discussion (Chapter 5)

Do not restate the statistics in the discussion section (e.g. $r(152) = .45, N = 67, p = .020$). This information has already given all this technical information in the Results section. The Discussion section is the place to describe what the technical findings actually mean.

According to the APA (2010, p. 248), this section should include:

1. Statement of support or nonsupport of all original hypotheses:
 - a. Distinguished by primary and secondary hypotheses
 - b. Post hoc explanations
2. Similarities and differences between results and work of others
3. Interpretation of the results, taking into account:
 - a. Sources of potential bias and other threats to internal validity
 - b. Imprecision of measures
 - c. The overall number of test or overlap among tests, and
 - d. Other limitations or weaknesses of the study
4. Generalizability (external validity) of the findings, taking into account:
 - a. The target population
 - b. Other contextual issues
5. Discussion of implications for future research, program, or policy

References

- American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th edition). Washington, DC: Author.
- Cone, J. D., & Foster, S. L. (2006). *Dissertations and theses from start to finish: Psychology and related fields* (2nd edition). Washington, DC: American Psychological Association.
- Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquires. *Educational Resources Information Center Annual Review Paper, 29*, 75-91.
- Guba, E. G., & Lincoln, Y.S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage.
- Krefting, L. (1996). Rigor in qualitative research: The assessment of trustworthiness. In A. K. Milinki (Ed.), *Cases in qualitative research* (pp. 173-181). Los Angeles: Pycszak.