REAP COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

Education Department

Guidelines for Master's Degree Culminating Experiences: Theses and Professional Contributions

M.S. Early Childhood Intervention
M.S. Elementary Education
M.S. Instructional Technology
M.S. Reading Education
M.S. School Leadership
M.S. Special Education
M.S. Higher Education Administration

Rev 2008

From consumer of knowledge to

creator of knowledge…

Getting Started

Graduate education is different from undergraduate schooling in many ways. Three of those ways are particularly relevant in thinking about your master's thesis or professional contribution.

1. A graduate student is expected to be self-motivated, able to work independently within her or his area of expertise. That is, one is expected to "master." And to become a "master" in a particular field.

2. A graduate student is expected to be analytical, to examine new occurrences or events in light of the knowledge you already have and to bring forth new knowledge from your examination.

3. A graduate student is expected to be able to synthesize, to draw together information gained in separate areas (for example, in different courses taken during graduate studies) and contribute up-to-date and relevant information on a new topic or problem.

It has long been the practice that when students were at or near completion of their graduate studies they would be required to demonstrate publicly that they did indeed possess these three skills.

The traditional means for this demonstration was through the researching and writing of a master's thesis. In a master's thesis the student would set out a problem to be studied within the field, would research (usually through primary written sources) previous work which had been done on that problem, and then would attempt to carry that work to a new level through his or her own original contribution of analysis and synthesis.

Procedures

The graduate student must obtain the approval of the graduate program director or the department chairperson to undertake a thesis or professional contribution (PC) project.

Two points should be made about this first step. The first point is that the student should discuss his or her ideas for a topic with a faculty member the student would like to serve as a mentor for the project. The student's mentor will, in conference with the student at the student's initiative, aid in the definition of an acceptable and feasible project. It is the responsibility of the chair to actually appoint a mentor, but everyone benefits if the student knows in advance that there is in fact a faculty member willing and able to serve as mentor.

Second, the discussions with both the potential mentor and the chair should take place before the student registers for the thesis or PC. Once that registration occurs, the "clock starts ticking," and it is definitely in the student's interest to know in advance that both the topic and the mentor are in place.

What is the purpose of the thesis and professional contribution?

The purpose of your thesis or professional contribution is at least twofold, i.e. it is a summary or culminating experience for you as a graduate student and an opportunity for you to share your insights with other educators. Because it is an important part of your graduate study, you will have the support of a mentor to help you with this endeavor, which may take up to four semesters to complete. Because you will be sharing your insights with other educators, you will need to find an opportunity to publicly present your final product. At times, graduate students have displayed a poster at the Graduate Research Forum or have made presentations to classes at Marywood or at their own schools.

How are thesis and professional contribution defined?

The method that you choose to demonstrate that you have the ability to work independently in your own field and are able to bring your powers of analysis and synthesis to bear upon a problem can be either a thesis or a professional contribution. If your program requires a thesis, you will identify a problem for study, research previous work which has been done on that problem, and finally carry that work to a new level through an original contribution that will require analysis or synthesis. Master's theses are usually academic and traditional, with a heavy reliance upon theory and an emphasis on "original contribution to knowledge."

A professional contribution is very "practice oriented" and results in a product. Perhaps you have identified a "real life" problem in your profession. Using the skills and knowledge that you have gained in your master's program, you set about solving that problem. Just as the student who has chosen the thesis, you will research previous work relating to the problem and then set about solving the problem. The difference between a thesis and a PC is the intent of the research. Where the master's thesis is an original contribution to knowledge, the intent of the professional contribution is the application of theory to practice resulting in product that contributes to your field.

Very simply, the following outline is an attempt to delineate the specifics of the thesis and the professional contribution:

Thesis

- Problem identified
- Extensive research
- Quantitative or Qualitative study
- Scholarly analysis and synthesis
- Typically follows the proposal outline required as a part of EDUC 501-Research Theory
- Public dimension (an opportunity to share your project with colleagues)

Professional Contribution

- Typically a combination of problem and "project"
- Project is identified as the development of an original instructional package or practitioner-oriented initiative that is considered a significant addition to a specific discipline. It should be "enterprising and imaginative in formulating an ambitious or extensive plan."
- Also, follows the research proposal outline required in EDUC 501- Research Theory, with some modifications
- Problem presents a clear application of theory to practice
- Synthesis and analysis are evident in this application
- Public dimension (an opportunity to share your project with colleagues)
- Project entails creative or unique application of research – not merely an accumulation of resources from the internet and other published materials.

THESIS OVERVIEW
A Quantitative Study

Chapter I – Introduction

This initial chapter serves as an introduction to your quantitative research paper. Consequently, it should exemplify the qualities of a good introduction: brief, precise, and well-focused. Within a relatively few pages, it should serve to acquaint the reader with the purpose, the context, and the significance of the study.

Statement of the Problem
Purpose of the Study
Research Question(s) or Hypothesis(es)
Theoretical Perspective
Definition of terms
Assumptions
Delimitations and Limitations of the Study
Significance of the Study

The justification of the significance of the study establishes it within a tradition of inquiry and a context of scholarly work. The significance of the study should be addressed from the following perspectives:

1. Who has an interest in this study?
2. What do we already know about the topic?
3. What has not been answered adequately in previous research and practice?

Chapter 2: Review of The Literature

The purpose of the literature review is to provide well documented support for the selection of the topic, the determination of the research question, and the choice of the research methodology. The literature review provides the context for the study – the setting for the research thesis.

Usually a researcher begins the literature review before setting up Chapter I. Examining what has already been published on the topic, the researcher may develop a focused topic for research, instruments for measurements and an academic writing style.

Why is the literature review so important to the research process?
The purpose of the literature review is to provide well-documented support for

1. the selection of the topic,
2. the determination of the research question, and
3. the choice of research methodology.

The importance of the literature review process in determining the research questions and the methodology by which to address them cannot be over-estimated.

However, let us be quite clear about what the literature review is not**.** The literature review in not an exhaustive summary of everything written about the research topic or of every study ever conducted on related research questions. Instead, it is a

1. critical analysis (evaluate the literature) of what is known about the topic,
2. structured as an argument supporting the selection of the topic, questions, methodology, environment, etc. of the study.

To serve either of these functions, it is essential that the student be certain to have considered (not necessarily included) all available material of significance. It is not the volume of material cited, as much as the comprehensiveness of the study, that determines the quality of the literature review. Above all, an effective literature review is based on the accuracy of analysis and coherence of argument. It is a function of thorough search and of your ability to communicate in writing what you have found to support your argument. Rely on refereed works – articles in scholarly journal and databases (internet sites maintained by scholarly professional organizations).

In your research methods classes, you have used texts that explain the process in detail. Check the design you have chosen with the textbook authors and be guided by their instructions.

What about using quotations from the articles you have read?
Overuse of direct quotes signals that the student recognizes authorities but does not know how to use the findings of these authorities to support his/her research question. *The student, therefore, should limit the use of quotes to two major purposes:*

1. to demonstrate that a particularly important conclusion or recommendation comes from a leading, recognized "authority" in the field;
2. to capitalize on a particularly clever means of phrasing an important issue.

When quoting, be sure to give the page number where you found the quote. Short quotes are part of the text (do not indent) and require use of quotation marks. For example:

> We unlearn how we habitually think, sense, and feel so that we can return to the present moment freshly and clearly**.** Maria Montessori (1972) said that "the adult must find himself the still unknown error that prevents him from seeing the child as he is" (p. 5).

Long quotes, however, are blocked and do not require quotation marks. For example:

> When we are less concerned with ourselves, we have more energy, interest, and dedication to others. Teaching becomes more selfless and effective:

> Only as we allow ourselves to be known-and thus cleansed of the prejudices and self-interests that distort the community of truth – can we begin truly to know … (Palmer, 1983. p. 60)

In other circumstances, it is recommended that the student paraphrase the author's positions or define the student's own positions and cite authors whose work directly supports those positions. In other words, put the findings of the researcher into your words but give the researcher credit by citing him/her according to APA (5th ed.) style. For example:

> In his review of the results of seven schools using some form of block scheduling, Carroll (1994) suggests that the more concentrated the schedule is (longer periods over fewer calendar days), the more positive the results will be on student academic performance, attendance, discipline, dropout rates, and standardized test scores.

Note that Carroll is given credit for his research, but the writer put the thought into his/her own words (paraphrase).

How shall I organize the literature review so that it is cohesive?

After you feel satisfied with what you have found after many hours of reading and taking notes, then you outline how you will present your review analysis.

- Will you cite "pros" and then "cons"?
- Will your argument be more convincing if you presented the findings chronologically to show that, over the past 20 years, ideas and practices have changed?
- Will you show that the majority of researchers used quantitative (statistics) methodology, thereby reinforcing your choice of a qualitative (anecdotal) method of generating data?

Often, a thorough review of the literature reveals opposing opinions or findings of theorists or researchers. In such cases, it is proper to state the two (or more) opinions and then list, parenthetically and in alphabetical order, the primary authorities subscribing to each, e.g., "Proponents of the theory of creationism (Jones, 1991; Roberts, 1990; and Santiago, 1992) …"

Similar formats may be used for classifying specific approaches to research design or methodology, consistent patterns of research findings, etc. This approach assumes, and demonstrates, careful analysis of the literature, provides evidence of the extent of research or agreement which exists on the issue, and provides the reader with easy access to the existing work in the field.

What kind of sources should you use?

Another function of the literature review is to facilitate other students' access to the literature in the field. In order to accomplish this end, whenever possible, students should cite primary sources. ***A Primary Source is a direct description of an occurrence by an individual who actually observed or witnessed the occurrence. Secondary source materials***

include any publications written by an author who was not a direct observer or participant in the events described. **For example, it is far less effective to cite an author's work "as reported in" another author's work, if the original work has been published in reasonably accessible source. Secondary sources should only be cited in the event the original work is unpublished or generally inaccessible. Similarly, whenever possible, students should avoid using unpublished manuscripts, papers presented at conferences for which proceedings are not published, etc., unless seminal works on a topic are not available in readily accessible published form.**

APA style also dictates that the student limit the References section to those works specifically mentioned in the text. This imposes two responsibilities: the student must identify the primary, most-respected authorities in the field and give due consideration to their contributions. New or lesser-known researchers and theorists should also be considered, but review of their work should be framed in consonance or contrast to the "recognized" positions in the field.

Once again . . .

The primary purpose of the literature review, however, remains the support of the student's selection of topic and methodology. To do this, there is no "one" established structure for the presentation of the literature review. The student must develop a framework that is

- conceptually clear,
- links the proposed study to the significant work previously done in the field,
- justifies the choices of topic, question(s), variables, population, and setting.

Whatever framework the student may consider, it is highly recommended that this be developed first in outline format, with ever-increasing levels of detail. In writing the text, then, students should give extreme care to the development of smooth, logical, and lucid transitions from section to section and paragraph to paragraph. The outline should facilitate the refinement of the student's conceptualization of how the various components of the literature review interrelate and the flow of logic used to support the primary arguments. These arguments should be traced through the literature review to culminate in one of several forms of conclusions. One form of conclusion would be a summary of the state of the art of research and theory related to the topic. Another possibility would be the formulation of new research questions which logically arise from the literature reviewed. Yet another possibility is an analysis of gaps in the existing the theoretical or research base, e.g., inconclusive results, limitations or flaws in the previous studies, or potential areas for re-interpretation of previous results or conclusions.

For those students experiencing extreme difficulty in designing an outline or format for the Literature review, Locke, Spirduso, and Silverman (2004) provide the following 12-step process for approaching the review of literature:

1. Citation. What study report is this? Record a complete reference citation.
2. Purpose and General Rationale. What was the purpose of the study and how did the author(s) make a case for its general importance?

3. Fit and specific rationale. How does the topic of the study fit into the existing research literature and how is that provenance used to make a specific case for the investigation?
4. Participants. Describe who was studied (give number and characteristics) and how they were selected.
5. Context. Where did the study take place? Describe important characteristics.
6. Steps in Sequence. In order performed, what were the main procedural steps in the study? Describe or diagram in a flowchart, showing order and any important relationships among the steps.
7. Data. What constituted data (e.g., test scores, questionnaire responses, frequency counts), how was it collected, and what was the role of the investigator(s) in that process?
8. Analysis. What form of data analysis was used, and what specific questions was it designed to answer? What (if any) statistical operations and computer programs were employed?
9. Results. What did the author(s) identify as the primary results (products or findings produced by the analysis of data)?
10. Conclusions. What did the author(s) assert about the results in Step 9 responded to the purpose(s) established in Step 2, and how did the events and experiences of the entire study contribute to that conclusion?
11. Cautions. What cautions does the author(s) raise about the study itself or about interpreting the results? Add here any of your own reservations.
12. Discussion. What interesting facts or ideas did you learn from reading the report? Include here anything that was of value, including: results, research designs and methods, references, instruments, history, useful arguments, or personal inspiration (4 – 5).

Chapter 3: Research Design And Methodology

Research Question
Research Design
Research Population and Sample
Instrumentation and Materials
    Reliability of the selected instruments
    Validity
    Pilot Study (if a new instrument)
Variables in the Study
Hypothesis(es)
Data Analysis – How will you analyze the data – what statistical tests will you use?

The purpose of this chapter is to explain precisely how the research questions or hypotheses were addressed in the study and why these methods were considered to be the most appropriate. *This chapter is typically presented as a plan for the proposal stage and is written in the future tense; in the submitted thesis, it is presented in the past tense.*

What design choices do I have…

Recall all the research you have read in your graduate and undergraduate studies. Remember the designs you studied in your Research Theory course? A design may be either a quantitative study or a qualitative one.

Quantitative (numbers)

Experimental
Quasi-experimental
Survey

In discussing the subjects for your study, you should discuss the population represented, how you selected the sample, rationale for the sample size, and sources for determining the specific participants.

In discussing the instrument (survey or experiment), you should discuss the operational definition of each variable and the means by which each will be measured. If the measurement tools are previously-used instruments, you should include information on: 1) verification of the reliability and validity of each instrument; 2) source and previous use of the instrument; 3) a statement regarding granted permission to use or modify copyrighted instruments; 4) the appropriateness of the methods by which the instrument will be applied; 5) the characteristics of the data which will be gathered via the instrument.

In discussing procedures, the researcher should trace the specific steps taken in gaining access to and contacting participants, securing their cooperation, and administering interventions and/ or data collection instruments. For all research involving human participants, including survey research, students must obtain formal, prior approval from Marywood University Institutional Research Board (IRB) www.marywood.edu/irb/

Approaches to data analysis should be presented. How are you going to analyze the data you collect? Justification of these approaches need not be provided unless you are making a selection from among several common alternatives or varying from accepted practice. Explanation of specific statistical measures need not be provided unless they are relatively uncommon or you are using them in ways different from their usage.

Chapter 4 - Presentation of The Results Or Findings

The purpose of this chapter is to present the results of your study as clearly as possible, leaving the interpretation of those results for the following chapter. As such, this chapter typically contains the analyzed data, often presented in both text and tabular or figure format. However, you should provide sufficient guidance in the text to highlight for the reader those findings of greatest importance. In quantitative studies, individual scores or raw data are generally not presented unless the specific nature of the study suggests that this is appropriate.

The structure of this chapter is an important issue for you to consider prior to beginning writing this chapter. Again, the value of an organizational outline cannot be overstated. Furthermore, the researcher may improve the readability of this chapter by providing the reader with an overview of the chapter's structure in the introductory paragraph(s). For qualitative studies, the data may be so extensive as to warrant breaking it into several chapters. You should consult with your mentor to verify the appropriateness of the specific multi-chapter format envisioned.

Most students begin this chapter with a description of the sample, with relevant demographic characteristics presented in the text or in tabular format. Many students have successfully approached this chapter by addressing each research question or hypothesis in sequential order, although combinations of questions or hypotheses or groupings of like findings may suggest a more logical, more readily interpreted format.

Presentation of Data in Quantitative Studies

In addition to presenting descriptive statistical findings (e.g., mean, median, standard deviation), inferential statistical studies should also include data on the statistical significance of those findings. Pre-determined probability levels (e.g., $p <. 05$ or $p < .10$) need not be the same for all data, but it may be necessary to justify why specific levels were established as the standards. It is equally important to present those findings which fail to show statistical significance or do not support directional hypotheses as it is to present those which confirm the researcher's anticipations. In some cases in which data do not address major questions or hypotheses, it may be permissible to inform the reader that no statistical significance was found, without presenting the actual data.

Use of Figures and Tables in Quantitative Studies

In quantitative studies, the text should be utilized primarily to highlight the most significant findings from more complex data displays or to present the findings if complex data displays are not appropriate. Tables should not be used to present relatively small amounts of data. Figures should only be used when their visual impact conveys a finding not readily apparent from the data. Data presented in tabular or figure should be introduced in the text as well.

Tables should present selected data in uniform format. It is essential that tables be visually attractive, with sufficient white space to direct the reader to important aspects of the data. All tables should be numbered consecutively in Arabic numerals: Table 1, Table 2, etc.. This number should appear above the table. The title of the table should be single-spaced and appear below the title number.

Figures are illustrations which are used to supplement the text, including diagrams, drawings, graphs, maps, photographs, etc. As with tables, these should be placed as close as feasible to the section of text in which they are first referenced. Like tables, figures are also numbered consecutively, using Arabic numerals; the difference, however, is that figure numbers and titles appear two spaces below the figure.

Chapter 5 - Conclusions, Discussion, And Recommendations For Further Research

The concluding chapter of the thesis serves to provide closure and tie together all preceding chapters. To this purpose, try to include the following elements:

1. An overview of the significant findings of the study;
2. A consideration of the findings in light of existing research studies;
3. Implications of the study for current theory;
4. A careful examination of findings that fail to support or only partially support your hypotheses;
5. Limitations of the study that may affect the validity or the generalizability of the results;
6. Recommendations for further research;
7. Implications of the study for professional practice or applied settings (optional).

The quality of this chapter is highly dependent on the extent to which you can illuminate the linkages between the data analysis presented in the previous chapter, the problems identified in Chapter 1, and the literature base reviewed in Chapter 2.

This characterizes the final chapter as far more analytical and integrative than a mere reiteration of the findings, although such a summary of conclusions may be an appropriate means of initiating the discussion presented in this chapter. As in the previous chapter, a common format for presenting conclusions may be by addressing, in turn, each research question or hypothesis. If an alternative was adopted for the data analysis in the previous chapter(s), it may assist the reader if a similar format is followed in presenting the conclusions and linking them to the knowledge base. Regardless of structure, whenever appropriate, this discussion should consider, critically, alternative interpretations of the findings vis-à-vis the literature, highlighting and examining key points of agreement and unanticipated findings alike.

Here is your big chance to show off your work. You are free to examine, interpret, and qualify the results, as well as draw inferences from them. Your interpretations must flow from the findings. Here is where you discuss whether you found support or nonsupport for your

hypothesis. Also . . . did you find differences or similarities between your results and the work of others whom you mentioned in the literature review? Don't simply repeat everything you stated in previous chapters; each new statement should contribute to your position of the problem.

In this chapter you have an opportunity to discuss any limitations of the study which may have influenced the results obtained. Maybe school was dismissed early and your intervention strategy in mathematics for those fifth graders was interrupted for three consecutive days. Or perhaps 60% of the surveys were returned but 15% were incorrectly filled out. This should not be viewed as a mandate to expose and apologize for all flaws and shortcomings, but rather to provide interpretation as to why results may have varied from the anticipated findings.

Discussion of the results in this chapter generally appears in the past tense, e.g., "In light of the significant difference *found* between the two groups…," or "*Having concluded* that …"

End Matter:

Each thesis contains "end matter" that follows chapter 5. End matter contains pages listing all the references <u>you have cited</u> in the entire document. It also includes appendices such as the following:

- **Permission to conduct the study**
- **Informed Consent Form**
- **Instruments for gathering data**
- **IRB Application and Approval, etc.**

THESIS OVERVIEW
A Qualitative Study

Chapter I

This initial chapter serves as an introduction to your study when you decide to do a qualitative scholarly paper. Consequently, it should exemplify the qualities of a good introduction: brief, precise, and well focused. Within a relatively few pages, it should serve to acquaint the reader with the purpose, the context, and the significance of the study.

Statement of the Problem
Purpose of the Study
Research Question(s)
Theoretical Perspective (if applicable)
Definition of terms
Assumptions
Delimitations and Limitations of the Study
Significance of the Study

The justification of the significance of the study establishes it within a tradition of inquiry and a context of scholarly work. Marshall and Rossman (1989) suggest that the significance of the study should be addressed from the following perspectives:

1. Who has an interest in this study?
2. What do we already know about the topic?
3. What has not been answered adequately in previous research and practice?

Chapter 2 - Review Of The Literature

The purpose of the literature review is to provide well documented support for the selection of the topic, the determination of the research question, and the choice of the research methodology. The literature review provides the context for the study – the setting for the research thesis.

Usually a researcher begins the literature review before setting up Chapter I. Examining what has already been published on the topic, the researcher may develop a focused topic for research, instruments for measurements and an academic writing style.

Why is the literature review so important to the research process?
The purpose of the literature review is to provide well-documented support for

1. the selection of the topic,
2. the determination of the research question, and
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The importance of the literature review process in determining the research questions and the methodology by which to address them cannot be over-estimated.

However, let us be quite clear about what the literature review is not**.** The literature review in not an exhaustive summary of everything written about the research topic or of every study ever conducted on related research questions. Instead, it is a

1. critical analysis (evaluate the literature) of what is known about the topic,
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What about using quotations from the articles you have read?

Overuse of direct quotes signals that the student recognizes authorities but does not know how to use the findings of these authorities to support his/her research question. *The student, therefore, should limit the use of quotes to two major purposes:*

1. to demonstrate that a particularly important conclusion or recommendation comes from a leading, recognized "authority" in the field;
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How shall I organize the literature review so that it is cohesive?

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- Will you cite "pros" and then "cons"?
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include any publications written by an author who was not a direct observer or participant in the events described. **For example, it is far less effective to cite an author's work "as reported in" another author's work, if the original work has been published in reasonably accessible source. Secondary sources should only be cited in the event the original work is unpublished or generally inaccessible. Similarly, whenever possible, students should avoid using unpublished manuscripts, papers presented at conferences for which proceedings are not published, etc., unless seminal works on a topic are not available in readily accessible published form.**

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- conceptually clear,
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Whatever framework the student may consider, it is highly recommended that this be developed first in outline format, with ever-increasing levels of detail. In writing the text, then, students should give extreme care to the development of smooth, logical, and lucid transitions from section to section and paragraph to paragraph. The outline should facilitate the refinement of the student's conceptualization of how the various components of the literature review interrelate and the flow of logic used to support the primary arguments. These arguments should be traced through the literature review to culminate in one of several forms of conclusions. One form of conclusion would be a summary of the state of the art of research and theory related to the topic. Another possibility would be the formulation of new research questions which logically arise from the literature reviewed. Yet another possibility is an analysis of gaps in the existing the theoretical or research base, e.g., inconclusive results, limitations or flaws in the previous studies, or potential areas for re-interpretation of previous results or conclusions.

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10. Conclusions. What did the author(s) assert about the results in Step 9 responded to the purpose(s) established in Step 2, and how did the events and experiences of the entire study contribute to that conclusion?
11. Cautions. What cautions does the author(s) raise about the study itself or about interpreting the results? Add here any of your own reservations.
12. Discussion. What interesting facts or ideas did you learn from reading the report? Include here anything that was of value, including: results, research designs and methods, references, instruments, history, useful arguments, or personal inspiration (4 – 5).

Chapter III – Methodology

Rationale for a Qualitative Design
The Type of Design Used (Ethnographic, Phenomenology, Case Study, Narrative Research / Biography, Grounded Theory)
Sample
Role of the Researcher
Data Collection Procedures
Data Analysis Procedures
Methods of Verification

Although more variation is anticipated in the formats of the methodology in chapters of qualitative studies than for quantitative research, the essential elements of this chapter remain the same. You should explain the structure and fidelity of the data to be collected. **First you need to present a cogent argument for the selection of the participants, research design, data collection methods (interview, participant observation, observation), data analysis techniques, and reporting format. This argument should be derived from the relationship**

of the research question(s) with the purpose of the study, and supported by previous work in the field.

Unlike their quantitative counterparts, qualitative researchers do not necessarily define all research questions prior to data collection. Some may arise during the data collection or analysis processes. This development should be traced carefully in the study; one recommendation is to include this description in the methodology chapter.

Lincoln and Guba (1997) suggest the following design considerations for inclusion in the methodological chapter of a qualitative study:

1. Determining a focus for the inquiry;
2. Determining fit of paradigm to focus;
3. Determining fit of the inquiry paradigm to the substantive theory selected to guide the inquiry;
4. Determining where and from whom data will be collected;
5. Determining successive phases of the inquiry;
6. Determining instrumentation;
7. Planning data collection and recording modes;
8. Planning data analysis procedures;
9. Planning the logistics;
10. Planning for trustworthiness.

Chapter IV – Findings

The purpose of this chapter is to present the results of your study as clearly as possible, leaving the interpretation of those results for the following chapter. As such, this chapter typically contains the analyzed data often presented in both text. However, you should provide sufficient guidance in the text to highlight for the reader those findings of greatest importance.

The structure of this chapter is an important issue for you to consider prior to beginning writing this chapter. Again, the value of an organizational outline cannot be overstated. Furthermore, the researcher may improve the readability of this chapter by providing the reader with an overview of the chapter's structure in the introductory paragraph(s). For qualitative studies, the data may be so extensive as to warrant breaking it into several chapters. You should consult with your mentor to verify the appropriateness of the specific multi-chapter format envisioned.

Descriptions of the themes that evolved from the data analysis are clearly detailed and supported with direct quotes from observations and interviews. In other words, the researcher uses the respondents' direct quotes to support the themes. Thick description (detailed) is necessary to provide the readers with a clear understanding of each theme. The researcher considers the audience from whom the study is being presented; the details of the study (descriptions) must be rich for a clear picture of what was said and how it was said.

Chapter V – Discussion and Conclusions

The researcher discusses several issues or conclusions that emerged from the study. The theoretical basis is validated or disqualified and references to citations made earlier in the study are reintroduced. The theoretical basis is validated or disqualified and references to citations made earlier in the study are reintroduced for the purpose of comparison or validation. This chapter concludes with the significance of the concluded study and recommendations for further study. The limitations expressed in Chapter I are more specifically developed in this last chapter.

End Matter

Each thesis contains "end matter" that follows chapter 5. End matter contains pages listing all the references you have cited in the entire document. It also includes appendices such as the following:

- **Permission to conduct the study**
- **Informed Consent Form**
- **Instruments for gathering data**
- **IRB Application and Approval, etc.**

OVERVIEW OF

PROFESSIONAL CONTRIBUTION

(PROJECT OR PRODUCT)

PROFESSIONAL CONTRIBUTION OVERVIEW

This initial chapter serves as an introduction to your study when you decide to do a professional contribution. A professional contribution is a project or a product that evolves from current research. It is, in other words, a research-based project. Consequently, it should exemplify the qualities of a good introduction: brief, precise, and well focused. Within a relatively few pages, it should serve to acquaint the reader with the purpose, the context, and the significance of the study.

Statement of the Problem
Purpose of the Study
Research Question(s)
Theoretical Perspective (if applicable)
Definition of terms
Assumptions
Delimitations and Limitations of the Study
Significance of the Study

The justification of the significance of the study establishes it within a tradition of inquiry and a context of scholarly work. Marshall and Rossman (1989) suggest that the significance of the study should be addressed from the following perspectives:

1. Who has an interest in this study?
2. What do we already know about the topic?
3. What has not been answered adequately in previous research and practice?

Chapter 2 - Review Of The Literature

The purpose of the literature review is to provide well documented support for the selection of the topic, the determination of the research question, and the choice of the research methodology. The literature review provides the context for the study – the setting for the research thesis. Usually a researcher begins the literature review before setting up Chapter I. Examining what has already been published on the topic, the researcher may develop a focused topic for research, instruments for measurements and an academic writing style.

Usually a researcher begins the literature review before setting up Chapter I. Examining what has already been published on the topic, the researcher may develop a focused topic for research, instruments for measurements and an academic writing style.

Why is the literature review so important to the research process?
The purpose of the literature review is to provide well-documented support for

1. the selection of the topic,
2. the determination of the research question, and
3. the choice of research methodology.

The importance of the literature review process in determining the research questions and the methodology by which to address them cannot be over-estimated.

However, let us be quite clear about what the literature review is not**.** The literature review in not an exhaustive summary of everything written about the research topic or of every study ever conducted on related research questions. Instead, it is a

1. critical analysis (evaluate the literature) of what is known about the topic,
2. structured as an argument supporting the selection of the topic, questions, methodology, environment, etc. of the study.

To serve either of these functions, it is essential that the student be certain to have considered (not necessarily included) all available material of significance. It is not the volume of material cited, as much as the comprehensiveness of the study, that determines the quality of the literature review. Above all, an effective literature review is based on the accuracy of analysis and coherence of argument. It is a function of thorough search and of your ability to communicate in writing what you have found to support your argument. Rely on refereed works – articles in scholarly journal and databases (internet sites maintained by scholarly professional organizations).

What about using quotations from the articles you have read?
Overuse of direct quotes signals that the student recognizes authorities but does not know how to use the findings of these authorities to support his/her research question. *The student, therefore, should limit the use of quotes to two major purposes:*

1. to demonstrate that a particularly important conclusion or recommendation comes from a leading, recognized "authority" in the field;
2. to capitalize on a particularly clever means of phrasing an important issue.

When quoting, be sure to give the page number where you found the quote. Short quotes are part of the text (do not indent) and require use of quotation marks. For example:

> We unlearn how we habitually think, sense, and feel so that we can return to the present moment freshly and clearly**.** Maria Montessori (1972) said that "the adult must find himself the still unknown error that prevents him from seeing the child as he is" (p. 5).

Long quotes, however, are blocked and do not require quotation marks. For example:

> When we are less concerned with ourselves, we have more energy, interest, and dedication to others. Teaching becomes more selfless and effective:
>
> > Only as we allow ourselves to be known-and thus cleansed of the prejudices and self-interests that distort the community of truth – can we begin truly to know … (Palmer, 1983, p. 60).

In other circumstances, it is recommended that the student paraphrase the author's positions or define the student's own positions and cite authors whose work directly supports those positions.

In other words, put the findings of the researcher into your words but give the researcher credit by citing him/her according to APA (5th ed.) style. For example:

> In his review of the results of seven schools using some form of block scheduling, Carroll (1994) suggests that the more concentrated the schedule is (longer periods over fewer calendar days), the more positive the results will be on student academic performance, attendance, discipline, dropout rates, and standardized test scores.

Note that Carroll is given credit for his research, but the writer put the thought into his/her own words (paraphrase).

How shall I organize the literature review so that it is cohesive?

After you feel satisfied with what you have found after many hours of reading and taking notes, then you outline how you will present your review analysis.

- Will you cite "pros" and then "cons"?
- Will your argument be more convincing if you presented the findings chronologically to show that, over the past 20 years, ideas and practices have changed?
- Will you show that the majority of researchers used quantitative (statistics) methodology, thereby reinforcing your choice of a qualitative (anecdotal) method of generating data?

Often, a thorough review of the literature reveals opposing opinions or findings of theorists or researchers. In such cases, it is proper to state the two (or more) opinions and then list, parenthetically and in alphabetical order, the primary authorities subscribing to each, e.g., "Proponents of the theory of creationism (Jones, 1991; Roberts, 1990; and Santiago, 1992) …"

Similar formats may be used for classifying specific approaches to research design or methodology, consistent patterns of research findings, etc. This approach assumes, and demonstrates, careful analysis of the literature, provides evidence of the extent of research or agreement which exists on the issue, and provides the reader with easy access to the existing work in the field.

What kind of sources should you use?

Another function of the literature review is to facilitate other students' access to the literature in the field. In order to accomplish this end, whenever possible, students should cite primary sources. *A Primary Source is a direct description of an occurrence by an individual who actually observed or witnessed the occurrence. Secondary source materials include any publications written by an author who was not a direct observer or participant in the events described.* For example, it is far less effective to cite an author's work "as reported in" another author's work, if the original work has been published in reasonably accessible source. Secondary sources should only be cited in the event the original work is unpublished or generally inaccessible. Similarly, whenever possible, students should avoid using unpublished manuscripts, papers presented at conferences for which proceedings are

not published, etc., unless seminal works on a topic are not available in readily accessible published form.

APA style also dictates that the student limit the References section to those works specifically mentioned in the text. This imposes two responsibilities: the student must identify the primary, most-respected authorities in the field and give due consideration to their contributions. New or lesser-known researchers and theorists should also be considered, but review of their work should be framed in consonance or contrast to the "recognized" positions in the field.

Once again . . .

The primary purpose of the literature review, however, remains the support of the student's selection of topic and methodology. To do this, there is no "one" established structure for the presentation of the literature review. The student must develop a framework that is

- conceptually clear,
- links the proposed study to the significant work previously done in the field,
- justifies the choices of topic, question(s), variables, population, and setting.

Whatever framework the student may consider, it is highly recommended that this be developed first in outline format, with ever-increasing levels of detail. In writing the text, then, students should give extreme care to the development of smooth, logical, and lucid transitions from section to section and paragraph to paragraph. The outline should facilitate the refinement of the student's conceptualization of how the various components of the literature review interrelate and the flow of logic used to support the primary arguments. These arguments should be traced through the literature review to culminate in one of several forms of conclusions. One form of conclusion would be a summary of the state of the art of research and theory related to the topic. Another possibility would be the formulation of new research questions which logically arise from the literature reviewed. Yet another possibility is an analysis of gaps in the existing the theoretical or research base, e.g., inconclusive results, limitations or flaws in the previous studies, or potential areas for re-interpretation of previous results or conclusions.

For those students experiencing extreme difficulty in designing an outline or format for the Literature review, Locke, Spirduso, and Silverman (2004) provide the following 12-step process for approaching the review of literature:

1. Citation. What study report is this? Record a complete reference citation
2. Purpose and General Rationale. What was the purpose of the study and how did the author(s) make a case for its general importance?
3. Fit and specific rationale. How does the topic of the study fit into the existing research literature and how is that provenance used to make a specific case for the investigation?

4. Participants. Describe who was studied (give number and characteristics) and how they were selected.
5. Context. Where did the study take place? Describe important characteristics.
6. Steps in Sequence. In order performed, what were the main procedural steps in the study? Describe or diagram in a flowchart, showing order and any important relationships among the steps.
7. Data. What constituted data (e.g., test scores, questionnaire responses, frequency counts), how was it collected, and what was the role of the investigator(s) in that process?
8. Analysis. What form of data analysis was used, and what specific questions was it designed to answer? What (if any) statistical operations and computer programs were employed?
9. Results. What did the author(s) identify as the primary results (products or findings produced by the analysis of data)?
10. Conclusions. What did the author(s) assert about the results in Step 9 responded to the purpose(s) established in Step 2, and how did the events and experiences of the entire study contribute to that conclusion?
11. Cautions. What cautions does the author(s) raise about the study itself or about interpreting the results? Add here any of your own reservations.
12. Discussion. What interesting facts or ideas did you learn from reading the report? Include here anything that was of value, including: results, research designs and methods, references, instruments, history, useful arguments, or personal inspiration (4 – 5).

Chapter III – Professional Contribution Methodology

The methods chapter for the professional contribution will tell in great detail the where, when, how and from whom you are gathering information, models of lessons, handbooks, or whatever for your professional contribution. If you are so creative that you do not need models, then you should indicate how these creative projects were effective in your school, classroom, or other setting. Be explicit as to how you incorporated them and what was the impact on your professional practice of education.

End Matter:

Each professional process or product contains "end matter" that follows chapter 3. End matter contains pages listing all the references <u>you have cited</u> in the three chapters. It also includes appendices such as the following:

N. B.: Since the professional contribution is a product (not a research paper), you will not submit further chapters. Your project / product will accompany, but be detached from, the first 3 chapters described above.

APPENDIX A

IRB PROCESS FOR THESES

www.marywood.edu/irb/

ALL STUDENTS WHO UNDERTAKE RESEARCH FOR THESES OR DISSERTATIONS MUST PROVIDE EVIDENCE (CERTIFICATE OF COMPLETION) OF TRAINING

Mandatory Training for Investigators, Faculty Sponsors, IRB Members and IRB Administrative Personnel

Link to NIH Training Site
Valid until Spring 2008

Link to CITI Training
Required beginning in Spring 2008 and will replace the NIH training

Policy for Investigators || Policy for Members & Administrative Personnel

Please submit a copy of your completion certificate with your Full or Expedited Review application.

EDUCATIONAL TRAINING IN HUMAN SUBJECTS PROTECTION FOR INVESTIGATORS

Policy Statement

Educational training in human subjects protection is required for all researchers and faculty sponsors involved in projects submitted for expedited or full review to the Institutional Review Board for the Protection of Human Participants (IRB). Training requirements will adhere to standards and regulations disseminated by the Office of Human Research Protections (OHRP) of the United States Department of Health & Human Services or required under the University's Federal Wide Assurance.

Definitions

Federal Wide Assurance (FWA) -- every institution engaged in human subjects research supported or conducted by DHHS must obtain an assurance of compliance approved by the Office for Human Research Protections (OHRP). The regulations and standards change periodically. Marywood University's FWA covers all research including human subjects sponsored by the University.

Procedures

Evidence of completed training must be submitted with the application to the IRB. Training requirements will adhere to the standards of the Office of Human Research Protections (OHRP). Training resources will be identified by the IRB administrator and made accessible to all investigators.

EDUCATIONAL TRAINING IN HUMAN SUBJECTS PROTECTION FOR IRB MEMBERS AND IRB ADMINISTRATIVE PERSONNEL

Policy Statement

Educational training in human subject protection is required for members and administrative personnel of the Institutional Review Board for the Protection of Human Participants (IRB). Training will be completed prior to the beginning of the appointment and annually. Training requirements will adhere to standards and regulations disseminated by the Office of Human Research Protections (OHRP) of the United States Department of Health & Human Services or required under the University's Federal Wide Assurance.

Definitions

For purposes of this policy, IRB administrative personnel include the signatory official and IRB administrative and IRB support personnel.

Federal Wide Assurance (FWA) -- every institution engaged in human subjects research supported or conducted by DHHS must obtain an assurance of compliance approved by the Office for Human Research Protections (OHRP). The regulations and standards change periodically. Marywood University's FWA covers all research including human subjects sponsored by the University.

Procedures

The training curriculum and requirements will be developed collaboratively by the IRB administrator and the Institutional Review Board for the Protection of Human Participants. Materials and resources will be provided in order to complete requirements.

OFFICE USE ONLY: DATE SUBMITTED: _____
DATE OF APPROVAL: _____

MARYWOOD UNIVERSITY INSTITUTIONAL REVIEW BOARD APPLICATION FOR INITIAL REVIEW

Please submit collated copies of all documents (this application, the informed consent form, the IRB training certificates, and any supporting documents) to the IRB.

PRIMARY INVESTIGATOR INFORMATION
Name of Primary Investigator:
Mailing Address:

Phone: Email:

Investigator IRB Human Participant Protections Training Certificate (Please attach) & Date:
Are you? (please check one):
☐ Faculty/Staff ☐ Individual outside Marywood University
☐ Undergraduate Student ☐ Graduate Student ☐ Doctoral Student

Please list all other co-investigators or collaborators involved with the research and their title/role on project
1)_____
2)_____
3)_____

SPONSOR INFORMATION (All applications from students and from persons outside the University must be signed by the faculty member supervising the research activity.)

Faculty/Staff Sponsor: _____

Academic Department:_____

Sponsor IRB Human Participant Protections Training Certificate (Please attach) & Date:

REVIEW CATEGORY:
Under which category are you applying for review?

☐ Full ☐ Expedited ☐ Exempt*
**If you are applying for Exemption from Full Review, please indicate the qualifying category in the next section*.

IF YOU ARE APPLYING FOR EXEMPTION:

PLEASE INDICATE UNDER WHICH OF THE FOLLOWING CATEGORIES YOU ARE APPLYING. (Check one):

____ 1. Research is conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

____ 2. Research involves only the use of educational tests (cognitive, diagnostic, aptitude, achievement), surveys , interviews, or observation of public behavior; and the following conditions exist: (i) responses are recorded in such a manner that the human participants cannot be identified, either directly or through identifiers linked to the subjects; or (ii) the participant runs no reasonable risk of criminal or civil liability, loss of financial standing or employability, or damage to reputation (*This subpart generally does not apply to children.)*

____ 3. Research involving the use of educational tests, survey procedures, interview procedures, or observations of public behavior that is not exempt under item #2, if (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

____ 4. Research involves only the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, which either are publicly available or will be recorded in such a manner that subjects cannot be identified, either directly or through identifiers.

____ 5. Research conducted or approved by a department or agency for purposes of program evaluation, designed to study or evaluate (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.

____ 6. Research involves taste or food quality studies where only wholesome foods without chemical additives are involved; or research involves only a limited amount of consumption of a food additive at or below a level approved by the FDA, the EPA, or the USDA.

STUDY INFORMATION

Title of Research:

_____

_____

Is an outside agency/institution providing participants for your research? (e.g. school, university, hospital, other facility, community)

_____

Note: Remember to include cooperating letter

FUNDING

☐ None

☐ Funded research Specify funding source: _____

_____ internal (i.e. student research award) _____ external* (state/fed. grant)

***Please attach a copy of any relevant grant application to this research proposal.**

If this project is collaborative (with another university or institution), please identify the institution responsible for fiscal matters (fiscal agent) related to the project:

_____

RESEARCH RISK CLASSIFICATION:

What is the risk classification for this research? (please check one)

☐ No more than minimal risk ("The probability and magnitude of harm or discomfort anticipated in this research are not greater than those encountered in daily life or during the performance of routine physical or psychological examinations or tests.")

☐ More than minimal risk (please include a data safety monitoring plan in research protocol, and familiarize all research staff with Adverse Event reporting procedures)

PLEASE ANSWER THE FOLLOWING QUESTIONS WITH REGARD TO THE PROPOSED RESEARCH ACTIVITY. CHECK ALL THAT APPLY. (An affirmative response to any of these might necessitate full board review.)

Does the research involve:		YES	NO
a.	drugs or other controlled substances?		
b.	payment to subjects or other offered incentives for participation?		
c.	access to subjects through an agency/institution/school (including Marywood University)? (*If **YES**, include copies of these agreements*)		
d.	collaboration on the research with an outside agency/institution/school?		

e.	subjects taking internally or having externally applied substances?		
f.	removing any fluids (e.g. blood) or tissue from subjects?		
g.	subjects experiencing stress (physiological or psychological) ***above*** a level that would be associated with their normal everyday activities?		
h.	misleading (deceiving) subjects about any aspect or purpose of the research?		
i.	subjects who would be deemed vulnerable (e.g. minors, mentally retarded or ill, aged, prisoners, pregnant women, non-English speaking subjects)?		
j.	any procedures or activities that might place the subjects at risk (psychological, physical or social)?		
k.	a written consent form **or** participant invitation letter? (*If **YES**, include copies of the form*)		
l.	data collection over a period longer than 6 months?		
m.	sensitive aspects of the person's own behavior, such as illegal conduct, drug use, sexual behavior, alcohol use, job loss, binge eating, suicidal thoughts, etc.?		
n.	data collected with audio and/or visual recording devices?		

NARRATIVE OUTLINE:

Please provide the research protocol narrative (overview of research project), using the following outline as a guide. **Each item must be addressed clearly and completely for review**.

I. **OVERVIEW** – brief description of the research planned and rationale for the project. Please include:
(a) research question(s) or hypothesis(es);
(b) most recent relevant research in the area of inquiry; and
(c) purpose of the study.

II. **PARTICIPANTS** – including characteristics and recruitment. Please specify:
(a) the expected number of participants;
(b) characteristics of population, e.g. age, minority population, special group whose ability to give consent is compromised, pregnant women, fetuses, prisoners;
(c) inclusion and exclusion criteria;
(d) where you will recruit participants; and
(e) how you will advertise the research, and attach any flyers, posters, or email script to be used for recruitment.

III. **BENEFITS/RISKS** – potential benefits and risks to participants. Risks relate to the possibility of harm as a result of participation and can be physical, psychological, financial, social, legal; or may result from loss of confidentiality.
(a) what the potential risks are to participants;
(b) if are risks minimal; specifically, no greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examination/testing;
(c) how potential risks will be minimized;
(d) if risks are reasonable when compared to benefits available; and
(e) what the potential benefits are to participants and/or field of study.

IV. **PROCEDURES** – description of the methods and procedures to be used with the participants of the research, in ***non-technical*** language.
(a) what participants will be asked to do;
(b) where research will take place;
(c) what standardized tests, tools, or measures will be used, and submit copies of instrumentation, if applicable;
(d) what data/information will be collected;
(e) how data will be analyzed;
(f) approximate duration of research;
(g) if participants will be compensated. If so, please disclose method and rationale (not considered a benefit).

V. **INFORMED CONSENT *PROCESS*** –process of obtaining consent (i.e. written or oral) from participants. Informed consent conveys study information, voluntariness of participation, procedure for withdrawal, confidentiality of data, risks/benefits of participation, and investigator contact information.
(a) how informed consent will be obtained;
(b) how informed consent will be documented (oral or written)

Informed Consent *Form* – Use template provided. Must be written in age and developmentally appropriate language. Keep signed original and provide copy to participant.

• *Assent Form* used in research involving minors age 7 or older (unless developmentally disabled). Provide to minor for signature or mark.
• *Parental Permission Letter* used in research involving minors of any age and developmental ability. Provide to parent/guardian for signature. Assent Form and Parental Permission Letter must address all areas included in informed consent form.
• Exempt research – provide copy of "Participant Letter" which addresses areas of informed consent. Signature of participants is not necessary in exempt research.

VI. **RECORDS MANAGEMENT** – Records must be kept for as long as the applicable regulations require (at LEAST 3 years). Please state:
(a) the length of retention,
(b) records will be kept in a locked file,
(c) indicate who will have access to the records.
(d) If records will not be destroyed, please state that in this section. Until data is destroyed, it must be kept in a secure place, accessed only by the investigator.

RESEARCH STUDENTS AND SPONSORS: PLEASE READ AND ENDORSE BELOW

1. I am familiar with the policies and procedures of Marywood University regarding human subjects. I subscribe to the standards described in IRB Ethical and Policy statement and will adhere to the policies and procedures

explained therein.

2. I am familiar with the published guidelines for the ethical treatment of participants including those associated with my particular field of inquiry (e.g., Code of Federal Regulations, Title 45 Part 46; as published by the American Psychological Association, American Sociological Association, NASW Code of Ethics).

3. I am familiar with and will adhere to official policies in my school or department concerning research activity (e.g., Psychology Department, School of Social Work Research Committee).

4. I understand that upon consideration of the nature of my project, the IRB, or the appropriate S/DRB, may request a full application for review of my research at their discretion and convenience.

5. I understand that no part of the proposed research may be carried out until I have received full and final approval from the IRB. Furthermore, I understand that Marywood University's IRB has the authority to suspend or terminate approval of research that is not being conducted in accordance with IRB requirements, or that has been associated with unexpected harm to subjects.

If changes in procedures involving human participants become necessary, I will submit these changes for review before initiating the changes.

SIGNATURE_____**DATE**_____
Investigator (s)

SIGNATURE_____**DATE**_____
Investigator (s)

ALL STUDENT APPLICATIONS AND APPLICANTS FROM OUTSIDE THE UNIVERSITY MUST HAVE A UNIVERSITY SPONSOR.

I have thoroughly read this application and agree to sponsor this project.

SIGNATURE_____ **Date**_____
University/Faculty Sponsor