

**XAVIER UNIVERSITY
DEPARTMENT OF EDUCATION**

RESEARCH PAPER

HOW SHOULD THE RESEARCH PAPER BE ORGANIZED?

1. **THE ABSTRACT.** The Abstract—or summary—no more than 250 words—is a separate page and placed just inside the front cover, preceding the research paper. It is the last part of the paper to be written. It is a summary of the nature of the study, the problem, the methods and procedures used, a brief overview of the findings, and the conclusions.

A well-written abstract should persuade a potential reader that the paper is worthy of examination. Although bound with the research paper, the abstract is not included in the Table of Contents. The abstract pages, if more than one, should be numbered independently of the research paper.

2. **INTRODUCTORY MATERIALS.** The formal pagination does not begin in this section. Pages are normally numbered in lower case Roman numerals.
 - a. The Title Page. Form should be standard unless there is a good reason to make it otherwise. Use the “inverted pyramid” shape in arranging the title. Try to limit the words in the title to 12-15 words. The abstract title page should be exactly the same.
 - b. The Acknowledgment. If included, the acknowledgment should not exceed one double spaced page.
 - c. The Table of Contents. Includes pages on which the chapters begin as well as a listing of all subtopics in each chapter. Also lists where the references and appendices begin. Contents of the appendices are listed.

3. **CHAPTER 1: INTRODUCTION AND STATEMENT OF PROBLEM**

INTRODUCTION. The introduction provides the general background or framework. It might include the historical background of the problem, the scholarly rationale for your interest in the subject, the current “state of the art” or the “science.”

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PURPOSE OF THE STUDY. Purposes can be stated in a variety of forms. Lists are the most common. Some examples of purpose statements follow:

- a. ... ascertain relationships between _____ and _____ and to determine whether a correlation can be established that would justify a major experimental study of _____.
- b. ... establish a database for decision-making by administrators on the issue of year-round school usage.
- c. ... develop a model program of _____.

The purpose, you should note, is **not** a duplication of the problem.

THE PROBLEM. Your statement of the problem (as a question) should appear in this section.

Example: What is the relationship between a student's grade point average in college and financial success ten years after graduation?

It should be followed by your Hypotheses.

Example: The hypotheses of this study is that students with high Grade Point Averages will have higher average salaries ten years after graduation from college.

A hypothesis is a proposition that the investigator is prepared to verify. A hypothesis is a calculated guess based on previous experience of logic or already acquired knowledge about the field.

Normally, most experimental or statistical studies will include a list of hypotheses. A historical study may or may not include hypotheses.

Hypotheses are stated either as positive expectations of what may or may not be true; or, sometimes, as the negative expectation or "null hypotheses."

(1) Predictions or expectations.

Example: "There will be found with a particular sample of subjects a significant correlation between scores on IQ tests and scores achieved by the same individuals on the MMPI."

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- (2) Null Hypotheses. These are statements that you do not expect to find. They are the opposite of what you really do believe you will find. The purpose is to demonstrate that you have tried to disprove what you think is true. It is often safer and easier to prove that statement is false than to prove that it is true.

Example: "Improved school counseling will not be found to be related to truancy."

A significant positive relationship would prove your null hypotheses to be false. If one does not find a statistically significant difference, then one cannot reject the null hypothesis; the null hypotheses is not accepted. Just because one cannot prove items or events as "different" does not mean one has proven them to be the "same."

The representatives of particular classes should be supported by evidence, not merely assumed.

SIGNIFICANCE OF THE STUDY. Why is your study needed? In what way will it contribute to knowledge in your field? One frequently made statement that may help to establish need is simply the contention that this particular investigation has never before been undertaken. Then the writer must be prepared to demonstrate, in specifics, why it should be undertaken, and why it is important. Avoid such vague and meaningless clichés as "The study will be useful to practitioners in the field" without further elaboration. How will it be useful? What beliefs will it provide that are not already available?

Need, by the way, does not always have to be phrased in practical terms; the absence of practical data in a field may, by itself, be sufficient to establish need. Need can be established through logic, through personal experience or even through the statement of an authority in the field that such a study is needed.

ASSUMPTIONS OF THE STUDY. The purpose of this section is to clarify, redefine, define, and limit your investigation. Assumptions are propositions that you do not intend to verify. They are statements of position you take for granted as either self-evident or commonly accepted or reasonable under the circumstances. An assumption, of course, may not necessarily be correct, but it should be reasonable enough, and warranted on the basis of other data. It is reasonable to assume that the sun will rise tomorrow at the predicted time, although this proposition is not an absolute certainty.

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List only those assumptions that are applicable to your study and essential to it. By listing your assumptions, you put readers on notice that you do not need to prove these assertions or propositions. However, do not assume something may be false just because you want an exemption from proving it is true.

Example: “It is assumed that the classes to be observed, randomly selected, will be representative of similar classes throughout the state.”

LIMITATIONS OF THE STUDY. Limitations are natural, unavoidable deficiencies to your study. Examples might include the lack of a truly representative sample, the inability to select and control a sample at random, inevitable error in test scores, dishonesty of subjects in responding to questions, etc.

DEFINITIONS. Those that should be listed are definitions for words or terms with which the reader is not likely to be familiar, or expressions or words that are used in unusual or specifically professional ways.

4. CHAPTER 2: REVIEW OF RELATED LITERATURE.

This section serves several purposes.

- a. It familiarizes you with work that has already been done in the field and work that is closely related to your proposed investigation. A common fault of the related literature section of many research papers is the failure to show any connection between the literature and the study being proposed or to integrate items in the literature with one another.
- b. This section shows how your study will fit into the general theoretical framework in your field and with the research of others. It is here that—implicitly or explicitly—you acknowledge your debt to those who have toiled in the field before you.
- c. The section, ideally, should conclude that despite your debt to others, and despite the existence of related work, your paper will contribute a unique contribution to the field.

Rather than the presentation of a mere list of annotated titles, sometimes arranged alphabetically rather than in a logical sequence, it is important to write an integrated statement citing the work that has been done, identifying the focus of such work and the contribution made by the authors. Show the connection of each piece of literature with your study, demonstrating how your study fits into the theoretical or investigative framework. Conclude by demonstrating that your work will expand the frontiers of knowledge in the field.

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Organize this section using sub-headings that show your logical development.

Where can you find materials for this section? Good sources for reviewing published books or articles include:

The Review of Educational Research

ERIC

Research Studies in Education

Psychological Abstracts

Educational Digest

5. CHAPTER 3: METHODOLOGY

This section is frequently the weakest part of a proposal, largely because many students have not seriously thought through the procedures and implications of their research problems. The methodology is a step-by-step outline of how your hypothesis is to be treated.

This section represents your basic plan of action; it can help to avoid grasping at the first plausible explanation, because it specifies your program for the examination of alternatives. Some of the questions that you should answer in preparing this section include:

- a. Is your overall research design appropriate to your investigation?
- b. How do you intend to proceed, step-by-step? You are concerned here with research procedures. Do not include the mechanical procedures for making copies of your manuscript and securing administrative approvals.
- c. What specific materials or instruments do you intend to use? If they will be of your own devising, describe rather fully what they will be like. How will you show that they are reliable? Valid? If you intend to use instruments already published, give full references to them and describe any that are not well known. If you are comparing your materials with standard ones, describe these also.
- d. What is the population from which your sample is to be drawn? Is your sample size large enough to provide the informational detail that you desire? How are you going to choose your samples? Compare the characteristics of your comparative samples? Or your experimental and control samples?

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- e. What documents or sources are you going to consult? Are they available? Where are they? Are they accessible to you? Have you—or can you get—permission to use them? Please recall that you need the consent of human participants.
- f. If you are planning to use special equipment (computers, spectrometers, etc.), is such equipment available to you? Can you operate the equipment? (Remember, you personally are responsible for understanding the data presented and for its accuracy and integrity; you may not delegate the blame, and you may not allow the use of a computer to exempt you from understanding the results presented in your research paper.)
- g. If you intend to include tables in your results, have you designed a format for the tables? (If you have not, you may find later—to your consternation—that you have failed to gather some necessary data.) What data comparisons and statistical analysis do you plan to use?

The Methodology chapter typically consists of five sections that include answers to the above questions. The sections are often called:

PURPOSE OF THE STUDY
SETTING AND POPULATION
DATA COLLECTION
DATA COMPILATION AND ANALYSIS
SUMMARY

6. CHAPTER 4: RESULTS

This chapter represents the direct results of your investigation. You present—in words, charts, tables, figures, and any other form you think appropriate—what you have discovered. Include here whatever actual data or tables should be read along with the text. On the other hand, tables or other materials that are so large as to interrupt the reader should be placed in an appendix. (Your raw data should appear in an appendix.) If you have done your work well, if your craftsmanship and your controls have been demonstrated adequately in the previous chapters, and if your design was properly conceived, your conclusions should flow from your methodology and your data. Your findings are objective. Ideally another investigator using the same methodology should arrive at the same findings.

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7. CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

This chapter summarizes the research, reviews the findings, presents the conclusions or implications, and list recommendations—either for action or for further research, or both

- a. Summary of research findings includes an overview of all of your procedures and observations. It will include the findings that you expected as well as those you did not anticipate. The disproof of a hypothesis can often be as great a contribution as its proof.
- b. Conclusions on the other hand, are interpretations, inferences, and implications based on the findings. Unlike findings, which are objective, conclusions may vary; they are personal but still logically deduced. They represent an attempt by the investigator to explain the findings. It should be made very clear to the reader which statements describe observations or findings, which contain the ideas of the author, and which comprise the author's conclusions. A number of explanations may be appropriate, some leading to recommendations.
- c. Recommendations may be of two types. Almost always included are suggestions for further research in the field, since it would take a brash investigator to assert that this study has produced the final and definitive work in the field. Such recommendations may be based on attractive tangents that the investigator would like to have pursued or similar research in related fields or areas.

On the other hand, recommendations may include specific suggestions for action or implementation of a policy or a curriculum. The logical relationship between the recommendations, conclusions and findings should be clearly expressed. The recommendations should be based on the conclusions and their implications.

8. **REFERENCES**. The references include all of the sources to which you have actually referred and which you have cited in the study. Any other materials—including those that you may have used for casual reference, or those that you considered but did not actually cite, or those that provide “general background” have no place among the references.

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9. **APPENDIX OR APPENDICES**. These may include tables, charts, copies of questionnaires, letters to or from respondents, letters of permission to use data, syllabus sample—in short, anything that is relevant to the study, but not appropriate for inclusion in the body of the text. Continue numbering the pages. Your raw data should always be included in this section.

10. **BINDING: HOW SHOULD THE PAPER BE SUBMITTED?**

Two copies of your final paper should be submitted. They should be printed on a good quality watermarked bond paper (at least 25% cotton content). Each copy should be wire spiral bound using a black vinyl cover. Graded research papers will be available for pickup two weeks after submission.