

Writing A Research Proposal: Guidance Notes

What is a research proposal?

A research proposal identifies an important problem and a promising solution. It outlines how you plan to make an original contribution to current knowledge.

Suggested layout

A research proposal's organization is based on a need and a plan to address that need.

1. Introduction
2. The research problem and research objectives
3. Literature review
4. Research procedures and methods
5. Expected outcomes

Suggested content by section

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1. Introduction

Stories and examples can provide a memorable beginning. For example:

By the late Middle Ages, cities throughout Europe were building Gothic cathedrals. The only way, however, that architects could test a new design was to build the cathedral, a process that took more than forty years. Unfortunately, many cathedrals caved in during or after construction. What took forty years to test in the Middle Ages could have been done in minutes on a supercomputer.

Make your audience aware of the problem that needs to be addressed.

Ensure your audience appreciates the validity of your assertions. For example:

Assertion: *An important goal is to reduce the leading edge vortices on the turbine blades in a jet engine.*

Way to encourage assertion appreciation: *The combustion gases passing over the blades are 500 K hotter than the blades' melting temperature, and replacing a turbine blade can cost more than \$25,000.*

Outline the reasons why you think the research you are proposing is important.

2. Research problem and research objectives

Why do you think the research you are proposing is important?

Clarify the nature and scope of the research problem, along with a discussion of the limitations imposed on the solution and the features or characteristics.

State your objectives.

3. Literature review

What has already been written about this research?

Identify and explain the knowledge that already exists about your proposed research.

Identify any gaps in knowledge that have yet to be addressed and show how your research will contribute to filling these gaps.

Indicate how accessible the required information sources will be.

4. Research procedures and methods

How you will go about answering your research question(s)?

Suggest the preferred research methods and procedures by which you will be able to answer your research question(s). (Note that these methods and procedures often emerge from your literature review)

Include several different research methods so as to triangulate your findings; in other words, the more research methods you can use and justify, the more you can re-check your findings and be certain of their value.

If appropriate, include a budget and a timeline to completion.

5. Expected outcomes

What you think or expect you will find, as answers to your research question?

Identify the results and findings that you think will emerge and where and how this will contribute to new and original knowledge.

Include a list of the materials that have been read and used in constructing the research proposal (the bibliography).

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