

# Six Basic Questions

## Planning Research Papers 1

Research and evaluation studies, including articles, papers for presentation at professional conferences, theses, graduate projects and dissertations, are successful only when they meet established standards of excellence. Any study may have pitfalls, sources of contamination, and invalidating factors by many names that challenge the findings and interpretations.

The most effective way to avoid those unintended errors is careful and thorough planning that tries to foresee problems and make allowances when unavoidable difficulties exist—and they usually will exist. A study that anticipates its own limitations and chooses the most appropriate and powerful solution to a given problem always impresses a critic.

This series of “Planning Research” materials presents several sets of guidelines and checklists that may help both novice and more experienced researchers. Some are more detailed than others, and some are slanted toward particular kinds of research. Readers should select the most suitable ones for their particular needs.

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In putting together any kind of complex academic or “scientific” writing, these six questions need answers:

1. What is the problem, why is it a problem, and how are you planning to approach it in your paper? The answer is your *Introduction*.
2. What have others in the field done or written about the problem? The answer is the *Review of Literature*.
3. How did (or, in a proposal, will) you study the problem? The answer is the *Materials and Methods* section (sometimes called *Methodology* or *Research Procedure*).
4. What did you (or, in a proposal, stated in general terms, do you expect to) find? The answer is the *Results*.
5. What do the findings seem to mean? Interpret them for the reader. The answer is the *Discussion*.
6. What is (or do you expect will be) the significance of the findings? What should the reader remember as the most important point(s) of your paper? The answer is the *Conclusion* (and it may include *Recommendations* for further action or further research).

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Check the other side of this sheet for some common errors in research design and methodology.

### Common Errors in Research Design and Methodology

1. Selecting a research area in which there isn't enough information to conduct a worthwhile study.
2. Trying to work on a problem that is too broad or poorly defined problem, leading to the failure to formulate clear and specific objectives.
3. Allowing personal biases to influence the research (i.e., the formulation of objectives, the selection of background literature, the design of the research, etc.)
4. Failing to define the research population.
5. Using a sample that is so small that it is not possible to test the hypotheses adequately or to analyze the performance of interesting subgroups.
6. Changing the design, in order to make data collection more convenient, in ways that weaken the research.
7. Structuring the data collecting devices (questionnaires, interview guides, observation forms, etc.) in such a way that the results are biased.
8. Making excessive demands on the subjects that lead them to refuse to participate.
9. Attempting to carry out a study in one semester that would require two or three years to do satisfactorily.
10. Failing to plan the data collection in enough detail to avoid excessive treatment errors, or not planning the analysis until after the data are collected.
11. Starting to collect the research data without carrying out a pilot study or adequately testing measures and procedures.
12. Reporting facts but not synthesizing or integrating the facts into meaningful generalizations.

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Here are a couple of sources you might find helpful if you want more information. Day's book is more in-depth and geared toward writers of professional papers. Meriwether's is more basic and how-to, and is aimed more toward writers of college-level research papers.

Day, R.A. (1979). *How to write and publish a scientific paper*. Philadelphia: ISI Press.

Meriwether, N. (2001). *12 easy steps to successful research papers* (second ed.). Lincolnwood IL: National Textbook Co.