

Developing Research Questions

Excerpts adapted from: Simon, M. K. (2011). *Dissertation and scholarly research: Recipes for success* (2011 ed.). Seattle, WA: Dissertation Success, LLC.

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Your research should be guided by a central research question (or a series of closely-connected questions). This needs to be made explicit early in your investigation (although you may refine your question(s) as your understanding deepens). Your research questions will help you to stay on target and to avoid being distracted by interesting (but irrelevant) digressions.

Qualitative Research Questions

Qualitative research questions tend to be open and probative in nature and must reflect the intent of the study. Research questions should be manageable and contain appropriate restriction, qualification, and delineation. The formulation of research questions reflects the selection of the research method and design.

Many qualitative research questions ask how or why events occur, or what are the perceptions and experiences of participants. Qualitative research questions are often exploratory in nature, and are designed to generate hypotheses that could be tested later in quantitative studies. The questions are in accord with the chosen design.

For example, in a phenomenological study the research questions should look to determine what the lived experiences of participants are regarding a specific phenomenon (e.g. “What are the lived experiences of teachers in Louisiana who taught during the aftermath of Katrina?”). In a grounded theory study the research questions should seek to develop a theory grounded in data (e.g., “What emergent theory or theories connect(s) the need for intrapreneurship with the actions leading to enacting intrapreneurial activities in the biotechnology industry?”) In a Delphi study, the questions need to be future oriented (e.g., “How can future teacher training programs prepare faculty for improving the education of African American males?”). Most dissertations are guided by 1-3 substantive and specific research questions.

Quantitative Research Questions

In quantitative studies, research questions need to test a theory or claim. A correlational study will contain research questions such as: “What is the relationship between the (independent variable) and the (dependent variable)”; in a comparative study: “What is the difference between (group A) and (group B) on (dependent variable)”. In an experimental study you would want to know the effect of a treatment given to a group (e.g., “What is the effect of faculty access and knowledge of performance data on reducing course drop rates (CDR)?”

Use the following table to check your proposed research questions:

Statement	Check
1. The research questions are precise and concise, there are no unnecessary words.	
2. The research questions are manageable and contain appropriate restriction, qualification, and delineation	
3. The research questions arise logically from the problem statement.	
4. The research questions reflect the type of study that will be conducted.	
5. The research questions are probative in nature. Words like how, what, or why are used.	
5. The research questions are of sufficient depth to warrant graduate level research.	
6. The research questions do not require a binary (yes/no) or numerical response.	
7. There are no pronouns such as <i>you, they, we, us</i> , etc. in the research questions.	
8. The research questions are broad enough to guide the entire study.	
9. The purpose statement explains how the research questions will be answered.	
10. Each research question is answerable by the methodological tools available to you.	
11. The Independent Variable(s) [IV] and the Dependent Variable(s) [DV] are delineated as is the relationship between them.	

Further Characteristics of Good Research Questions (RQs)

1. The research questions should be well grounded in current theoretical and empirical knowledge (the researcher should know the current and germinal literature).
2. In quantitative studies the RQs should be amenable to the formulation of clear hypotheses and operational definitions
3. The answer to the research questions should be important in terms of theory and application (usually weighted toward one).

Major Types of Research Questions

- Existence -- To what extent do octogenarians suffer from depression?
- Description and Classification – How do autistic children function in an inclusive classroom?
- Descriptive-Comparative – What is the difference in depression between those enrolled in an e-pal program and those who are not enrolled?
- Relationship – What is the relationship between mathematics anxiety and test anxiety?
- Causality-Comparative – How does physical exercise compare to mental exercises in performance tests of seniors?
- Causality-Comparative Interaction: What is the difference in performance on standardized tests, after being exposed to the smell of peppermint?

When it comes to identifying the questions to be investigated by a research project, quantitative studies use parametric or non-parametric statistical methods that place an emphasis on taking a *research question and translating it into one or more rigorous hypotheses about the behavior of quantifiable variables*, such as correlations between them or differences between means (Durrheim, 1999).

Durrheim, K. (1999). Quantitative analysis. In M. Terre Blanche & K. Durrheim (Eds.), *Research in practice: Applied methods for the social sciences* (pp. 96-122). Cape Town:

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