

The Relationship between Research Problems, Research Objectives and Research Questions

Yue Han-Jing^{1*}

¹School of Government, Shanghai University of Political Science and Law, Shanghai 201701, China

DOI: [10.36347/sjahss.2023.v11i11.002](https://doi.org/10.36347/sjahss.2023.v11i11.002)

| Received: 07.10.2023 | Accepted: 13.11.2023 | Published: 16.11.2023

*Corresponding author: Yue Han-Jing

School of Government, Shanghai University of Political Science and Law, Shanghai 201701, China

Abstract

Review Article

In the process of scientific research, discovering research problems, setting research objectives and raising research questions are all very important steps. However, there are still some misunderstandings and vague understandings about the relationship between research problems, research objectives and research questions, especially the differences and relations between research problems and research questions. This misunderstanding and vague understanding have a negative impact on the improvement of the quality of research. Through the comparison of the meaning of the three and their positions in the research process, it can be found that the research problem determines the research goal, and the research goal determines the research question to a great extent.

Keywords: Research problems; research objectives; research questions.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Any serious scientific research must have research problems and research questions. Many people often use these two words interchangeably without distinction. In practice, however, there is a difference between the two words. The difference between them can be shown by the relationship between them, which is largely mediated by the research purpose/objective. We can show the relationship between them by analyzing the meaning of the three and examining their status in the research process.

I. The Meaning of the Research Problem and Its Position in the Research Process

The research problem is a kind of difficult situation or contradiction that needs to be studied and solved. It can be a practical dilemma or a lack or deficiency in cognition. Therefore, the research problems can be divided into two categories. One is the practical research problem, such as a city with the lowest GDP growth relative to its siblings, and an organization facing a financial crisis, which means that most of its projects will be cut. The other is the theoretical research problem. This kind of research problems can be reflected in the conflict of different views, a certain fact or relationship

having not been fully studied and so on. Examples of theoretical research problems: the effects of antibiotics on the human immune system have not been well studied; the relationship between race, gender, place of birth and income has not been well studied from the perspective of the world economy; philosophers disagree on the role of Kant's research in developing people's self-awareness and identity. Obviously, the research problems are often expressed in the form of declarative sentences [1]. The purpose of selecting practical research problems is to promote change, and the purpose of choosing theoretical research problems is to increase knowledge. Some studies do both at the same time, but usually the research questions focus on one of them.

Research problems are generally included in the research topic. It comes from two sources: the first is the experience of individuals or practitioners, or practice, and the second is literature. Practice may prompt people to discover difficult problems that need to be solved. When searching and reviewing literature (journal articles, minutes of meetings, papers, books, and government documents) and media (such as television and newspapers), people may encounter conflicting theories, problems that currently have no solutions, and

¹ See "How to Come up with a Research Problem/Question,"

<https://dissertationauthors.com/blog/how-to-write-research-problem>.

information and knowledge gaps that need to be bridged [2]. In scientific research, identifying and determining research problems is the first step in the research process. Without a clear research problem, researchers are likely to get an unfocused and difficult to manage research project, or they may do repetitive research.

II. The Meaning of the Research Objective and Its Position in the Research Process

Research objectives describe what your research project wants to achieve. They guide some important steps in the research process, including how to collect data, build arguments, and draw conclusions. Your research objectives may change slightly as your research progresses, but they should always be consistent with the research conducted and the actual content of your paper. The research objectives can be divided into general/broad objectives and specific objectives. Specific objectives indicate the specific focus and path of your research project. The overall goal provides a high-level description of what the study is about and what it wants to achieve. It is not very specific or action-oriented, but it clearly illustrates what the focus of the study is and what is being studied.

The specific objective of the study makes the overall objective more practical and operable. In other words, the specific objectives of the study show the steps that researchers will take to achieve the overall objective. It also means that although there is only one overall objective for a study, it may have multiple specific objectives. For example, if the overall objective of the study is to examine the risk factors of muscle retention in the elderly, the specific objectives of the study could be as follows: to assess the relationship between sedentary habits and participants' muscle atrophy; to determine the effects of dietary factors, especially protein intake, on participants' muscle health; and to determine the effects of physical activity on participants' muscle health. What needs to be emphasized here is that any research objective is set by the research problem.

The acronym "SMART" is usually used to refer to the reference standard for setting specific research goals. These standards are as follows. Specific-- make sure your objectives are not too vague and that your research needs to be clearly defined. Measurable-- know how you will evaluate whether your objectives have been achieved. Achievable-- your goals may be challenging, but they should be achievable. Relevant-- make sure they address the research problems you want to study directly, and that they contribute to the current state of research in

your field. Time-bound: set clear deadlines for objectives to ensure that the project stays on track [3].

The research objective can be one or a combination of the following categories: To fill the existing knowledge gap; To understand the relationship between different aspects of natural or social phenomena; To examine and verify new or old knowledge, theories, or beliefs; To construct a new theory; To resolve and clarify contradictory exploration results; To provide information on changes in current practice [4].

III. The Meaning of the Research Question and Its Position in the Research Process

The research question is the question that the study aims to answer, which is usually expressed in the form of interrogative sentences. The research question is dynamic, that is, researchers can change or improve the research question while reviewing the literature and developing the research framework. Although many research projects will focus on one research question, larger studies usually use multiple research questions. However, such multiple research questions should be clearly linked and revolve around a dominant research problem.

Research questions can be roughly divided into two categories: quantitative research questions and qualitative research questions. Quantitative research questions can not be answered by "yes" or "no", and they can be further divided into three types: descriptive, comparative and relational. The study of qualitative research problems is usually aimed at "discovery", "explanation" or "exploration".

A good research question should meet a certain standard, which is called "FINER". F-feasible, that is, the question is completely within the scope of the researcher's research ability and research conditions (time, funds, material tools, etc.), and also includes the maneuverability of the research question, which mainly means that the question should not be too broad or too small (if the question is too broad, it is impossible to answer completely within a limited number of words. If it is too narrow, there will not be enough to write about), the core concept of the question should be specific. I-interesting, that is, research questions are of interest not only to researchers, but also to their peers and groups. N-novel, that is, the problem has not been studied or there is room for further development (such as in point of view, resource, method, perspective, etc.). This is the core

² Parlindungan Pardede. "Identifying a Research Problem (and Writing the Statement of the Problem)," January 10, 2022, <https://www.weedutap.com/2022/01/identifying-research-problem-and.html>.

³ See David Phair and Alezanra Shaeffer, "Research Aims, Objectives & Questions," June 1, 2022,

<https://gradcoach.com/research-aims-objectives-questions/>.

⁴ Augustine E. Akhidime, "The Importance and Development of Research Problem: A Didactic Discuss," *International Journal of Economics, Commerce and Management*, Vol.5, No.8, 2017, pp.631-640.

standard for the research question. Obviously, the novelty standard also potentially requires that the research questions raised should be complex, not too simple, and have analytical needs rather than too many narrative requirements, for example, can not be answered by “yes” or “no”, or can not be answered by casually consulting some materials. E- ethical, that is, the research question must be approved by the review committee and the relevant authorities, and the research questions raised must not have political errors in form and content. R-

relevant, that is, research questions should be relevant to the scientific community and people in your field of research, and, if possible, to the public interest [5]. This is similar to the requirement that research should be of practical significance and be able to serve the country and society.

The following table mainly compares the bad research questions with the good research questions from the perspective of feasibility.

Research Question	Explanation
x What is the influence of TV on people? √What is the impact of daily adult TV programs on children under the age of 16?	The first question is not specific enough. It’s not clear what kind of TV show, what kind of influence, what kind of people. The second question is more operable.
x Why is there a crisis in the world today? √What is the impact of COVID-19 epidemic on the world economy in 2020?	If a question begins with “why”, then the question is not specific enough because it may be answered from a different theory or perspective. By focusing on one aspect and using specific language, the second question is more actionable.
x Which insurance system is better, in the United States or Britain? √How do the United States and Britain compare in terms of insurance results and satisfaction of middle-income citizens?	The first question is too broad and lacks standards for research. It is impossible to do clear research by using the word “better” alone. Avoid using subjective words such as “good”, “bad”, “better” and “worse” because such questions lack clear criteria for answering. The second question is feasible because it has specific terminology and limits research to specific groups of people.
x Has there been a decrease in homelessness in Syria in the past five years? √How have political factors affected the homeless in Syria over the past five years?	The first question may be answered by “yes” or “no”, so it is too simple. The second question is clearer and requires an in-depth investigation. Closed “yes / no” questions are too simple to be good research questions-they do not provide enough space for strong investigation and discussion.
x How dependent is Australia on nuclear energy? √What impact will the greater reliance on nuclear power have on Australia?	Research problems should prompt researchers to analyze a problem rather than simply describe it. The first problem requires a description rather than an analysis of the problem, and it is too small.

Research Objectives	Research Questions
describing and exploring	What are the characteristics of X? How does X change over time? What is the cause of X? How does X deal with Y?
explaining and testing	What is the relationship between X and Y? What is the role of X in Y? What is the effect of X on Y? How does X affect Y?
assessing and acting	What are the strengths and weaknesses of X? How effective is X? How can X be improved?

The way in which questions are asked depends on the research objectives. The central research question should correspond with the research problem to maintain the stability of the research focus. If there are multiple

⁵ See Imed Bouchrika, “How to Write a Research Question: Types, Steps, and Examples,” May 12, 2023,

<https://research.com/research/how-to-write-a-research-question>.

research questions, they should be clearly linked to the central research aim [6]. The following table shows some examples of how to set questions for different objectives. In most cases, the research problem is basically to “transform” the research objective into the question form [7].

The main research questions may not be answered all at once. This is why sub-questions are important: they allow you to answer the main question in a step-by-step manner. Good sub-questions should be: not as complex as the main question, focusing on only one type of research, and presented in a logical order. Sub-questions are not necessary. Sub-questions should be raised only when the main questions need to be answered by the findings obtained when answering sub-questions. If the main question is simple enough, it is possible not to raise sub-questions. As a rule of thumb, the more complex the topic, the more sub-questions are needed. Try to limit yourself to a maximum of 4 or 5 sub-questions. If more sub-questions are needed, this may indicate that the main research questions are not specific enough. In this case, it is best to review the problem statement and try to narrow down the main question.

IV. An Example Showing the Relationship between the Three

The contents of the above three parts have shown the relationship between research problems, research objectives and research questions: research objectives and research questions should be based on research problems, and the raising of research questions is more based on the set research objectives. This is understandable, after all, for the same research problem, different researchers may have different research objectives, and specific research questions will only be put forward according to specific research objectives. The following is an example to illustrate the relationship between research problems, research objectives and research questions.

Student Li Lei is a female who is studying for a doctorate in Educational Leadership. She used to be a reporter for a national newspaper. She spent most of her early career interviewing people for newspaper articles.

As a result, she has a knack for listening to others, taking notes and summing up long interviews. In addition, because of her rich experience as a woman, she learned self-reflection, began to pay attention to justice issues. She will academically position herself as a critical theorist.

The research problem she encountered in the course of her research went like this: at X College, Li Lei looked up some author names and abstract data, which showed that of the 25 doctoral dissertations completed by the entire department of Educational Leadership in the past five years, only one paper written by a female student mentioned school finance in the abstract, while eight male students in the same project discussed the subject.

Based on this research problem, she set two research objectives. The first research objective is to understand what causes the huge gender differences in the topic selection of doctoral students in X College. The second research objective is to provide educational administrators with strategies to encourage more female students to use financial reform and financial issues in school management as the theme of their doctoral thesis. The first objective is the academic objective, which aims to understand and explain. The second objective is a practical one, which aims to change (change the undesirable status quo). According to her research objectives, the main research question she formulated is: what are the reasons for the gender differences in the title of the thesis in the Department of Educational Leadership of X College? With regard to this main research question, she set two sub-questions: what do female doctoral students in the Department of Educational Leadership of X College think of the gender gap? What is the reason why female doctoral students do not choose topics related to school finance? The second sub-question is a general question, which must be put forward to solve the main research question, and at the same time, provides the necessity and possibility for the intervention of related theories. In response to the second research objective, her research question is: how can educational leaders improve this gender gap? [8].

⁶ Shona McCombes, “Writing Strong Research Questions | Criteria & Examples,” January 30, 2023, <https://www.scribbr.com/research-process/research-questions/>.

⁷ See David Phair and Aezanra Shaeffer, “Research Aims, Objectives & Questions,” June 1, 2022,

<https://gradcoach.com/research-aims-objectives-questions/>.

⁸ Cynthia Grant, Azadeh Osanloo, “Understanding, Selecting, and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for Your ‘House’,” *Grant & Osanloo*, Vol.4, No.2, 2014, pp.12-26.