



# Research Problem

# Research problem: interest to topic

A research topic is an interest defined narrowly enough for you to imagine becoming a local expert on it. That doesn't mean that you already know a lot about it or that you will have to learn more about it than your professor has. You just want to know more than you do now.

- Start with what interests you most deeply.
- Start by listing two or three interests that you'd like to explore.
- If you are undertaking a research project in a course in a specific field, skim a recent textbook, talk to other students, or consult your teacher or you can find help either on the Internet or in your library.
- Scan headings for topics that catch your interest.
- Once you **identify a general area of interest**, use the Internet to find out more about it and to help you **narrow your topic**. (If you pick a topic and then discover that sources are hard to find, you may have to start over.

# Research problem: interest to topic

## *Examples*

Issue (general)	Topic (narrow)	Research (specific)
Crop agriculture	Cost-benefit in cropping	Assessing the Economic Impact of Climate-Resilient Crop Varieties
Textile industry	Textile production and working conditions	Assessing the Impact of Improved Working Conditions on Productivity in Textile Factories
Education	Teaching and students performance	The Influence of Class Size on Student Academic Performance

# Research problem: topic to problems

A research problem defined by what you do not know or understand, but feel you must before you can solve your practical problem.

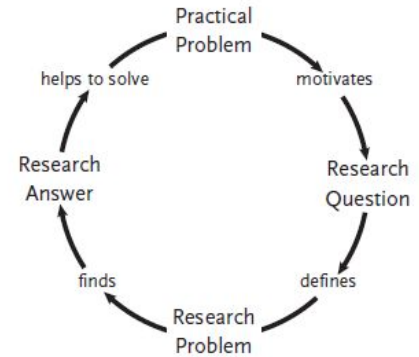
A research problem is motivated not by palpable unhappiness, but by incomplete knowledge or flawed understanding.

You solve it not by changing the world but by understanding it better.

A research problem is something we eagerly seek out, even inventing one, if we have to.

The condition of a research problem, is always some version of not knowing something.

The consequence of a research problem, is something else we or, more important, our readers don't know or understand, but is more significant, more consequential than the ignorance or is understanding named by the condition.



# Research problem: topic to problems

## *Examples*

Issue (general)	Topic (narrow)	Research (specific)	Research Problem
Crop agriculture	Cost-benefit in cropping	Assessing the Economic Impact of Climate-Resilient Crop Varieties	Economic feasibility, Adoption barriers, Regional variation
Textile industry	Textile production and working conditions	Assessing the Impact of Improved Working Conditions on Productivity in Textile Factories	Impact variability, Lack of awareness, Variability in economic conditions
Education	Teaching and students performance	The Influence of Class Size on Student Academic Performance	Teaching methods, Teacher-student interaction, Classroom management

# Identifying problem

The reason for the research inquiry is the research problem. The first and most important step for identifying a problem is asking a question or identifying a need that arises as a result of curiosity and to which it becomes necessary to find an answer.

Essentially two steps are involved in formulating the research problem:

- 1. Understanding the problem thoroughly and**
- 2. Rephrasing the same into meaningful terms.**

The main function of formulating a research problem is to decide what you want to find out about time and expertise and knowledge available at your disposal. It is equally important to identify any gaps in your knowledge of relevant disciplines, such as statistics required for analysis.

# Review of literature

**For identifying a good solvable problem, the investigator undertakes the review of the literature.**

A body of prior work related to a research problem is referred to as literature. Scientific research includes a review of the relevant literature.

When a researcher reviews the previous researches in related fields, he becomes familiar with several knowns and unknowns.

The obvious advantage of review of the literature is that it helps to eliminate duplication of what has already been done and provide guidance and suggestions for further research.

There are different sources of review of the literature such as **Journals, Books, Abstracts, Indexes, and Periodicals.**

# Review of literature

## **The main purpose of the review of the literature:**

1. It gives an idea about the variables that have been found to be conceptually and practically important and unimportant in the related field;
2. It provides an estimate of the previous work and an opportunity for the meaningful extension of the previous work;
3. It helps the researcher in systemizing the expanding and growing body of knowledge to draw useful conclusions in own research; and
4. It helps in redefining the variables and determining the meanings and relationships among them.



# Review of literature: search engines



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# Research gap and significance

**You can sketch the question/problem that defines the gap in knowledge or understanding that you want to resolve.**

Researcher should connect a Research Problem to Practical Consequences. There should be either or both **conceptual significance** and **practical significance**.

**Conceptual Significance:** in order to **help readers understand**

**Practical Significance:** so that **readers can better perform/implement/act on**

# Research questions

The best way to find out what you do not know about a topic is to barrage it with questions.

**Questions that ask who, what, when, or where are important**, but they may ask only about matters of settled fact (though not always). Questions that ask **how and why** are more likely to invite deeper research and lead to more interesting answers.

Once you settle on a question or two, you have a guide to doing your research more systematically. A question narrows your search to only those data you need for its answer.

Questioning can send you in directions you never imagined, opening you up to new interests, new worlds of research. Finding good questions is an essential step in any project that goes beyond fact-grubbing.

# Research questions

## *Examples*

Issue (general)	Topic (narrow)	Research (specific)	Research Problem	Research Questions
Crop agriculture	Cost-benefit in cropping	Assessing the Economic Impact of Climate-Resilient Crop Varieties	Economic feasibility, Adoption barriers, Regional variation	What socio-economic factors affect the adoption of climate-resilient crop varieties?
Textile industry	Textile production and working conditions	Assessing the Impact of Improved Working Conditions on Productivity in Textile Factories	Impact variability, Lack of awareness, Variability in economic conditions	How does labor awareness affect the adoption of improved working conditions?
Education	Teaching and students performance	The Influence of Class Size on Student Academic Performance	Teaching methods, Teacher-student interaction, Classroom management	What is the relationship between teaching methods and student academic performance in different class sizes?

# Setting objectives and hypotheses

To achieve something, research is undertaken. Thus, a goal- oriented activity is a research. To give a direction to the research study, we have to identify the specified goal/goals to be achieved. Hence, it is equally important to formulate the research objectives.

Once research objectives are stated, the entire research activity will be geared to achieving those objectives. The objectives of the study must be clear, specific, and definite.

When the researcher has identified the problem and reviewed the relevant literature they formulate a hypothesis, which is a kind of suggested answer to the problem.

Hypothesis plays the key role in formulating and guiding any study. The hypotheses are generally derived by the study of earlier research findings, existing theories, and personal observations and experiences.

**Hypothesis may be defined as a tentative statement showing a relationship among variables under study.** It is stated in the form of a declarative sentence. It is a statement based on some presumptions about the existence of a relationship among variables that can be tested through empirical data.

# Setting objectives and hypotheses

## *Examples*

Research (specific)	Research Problem	Research Questions	Hypotheses
Assessing the Economic Impact of Climate-Resilient Crop Varieties	Economic feasibility, Adoption barriers, Regional variation	What socio-economic factors affect the adoption of climate-resilient crop varieties?	Higher socioeconomic status increases the adoption of climate-resilient crops.
Assessing the Impact of Improved Working Conditions on Productivity in Textile Factories	Impact variability, Lack of awareness, Variability in economic conditions	How does labor awareness affect the adoption of improved working conditions?	Labor awareness of their rights to standard workplace influences the adoption of improved working conditions.
The Influence of Class Size on Student Academic Performance	Teaching methods, Teacher-student interaction, Classroom management	What is the relationship between teaching methods and student academic performance in different class sizes?	Class size impacts using multiple teaching methods and student performance in a course.

