

# **CHAPTER 1**

# **Fundamentals of Research**

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# 1. Sources of Knowledge

- There are two major approaches of knowing the world
  - Everyday experience
  - Science

## 1.1 Everyday Experience as Source of Knowledge

- We get access to new ideas or information through our senses –the most immediate way of knowing something
- There are also other ways of knowing from our everyday experience

### A) *The method of tenacity*

- The term tenacity refers to the acceptance of belief based on the idea that “we have always known it to be this way”
- It is the automatic acceptance of the prevailing traditional beliefs and customs in which we have been socialized
- We accept those beliefs and customs as true without exploring them and then behave with it.

## ***B) The method of Authority***

- Referring to an authority, especially in areas about which we know nothing, is useful and beneficial.
- We often rely on the judgment and expertise when we consult an authority (for example medical doctor, chemist, or authority figure in the society)
- Note that authority can be incorrect and at times can lead people in the wrong direction

## ***C) The Prior method***

- In this method, first we develop general knowledge, opinion, or belief about the world through the above methods, then we draw new and specific conclusions (deductive reasoning)

## ***D) Common Sense***

- It is based on our own past experiences and our perceptions of the world

## 1.2. The Scientific Method as a Source of Knowledge

- In scientific method ideas are evaluated and corrected through dispassionately observing by means of our bodily senses or measuring devices.
- The goal of scientific method of knowing (scientific research) is the discovery of regularities of nature and their representation in theories from which predictions can be made.
- Scientific method of knowing has some limitations:-
  - ✓ The scientific method cannot answer all questions
  - ✓ Application of scientific method can never capture the full richness of the individual and the environment
  - ✓ The measurement devices always have some degree of error
- Research means simply searching or seeking of knowledge, but scientific knowledge is more than this even though it deals with knowledge

# 2. Definition and Purpose of Research

## 2.1. Definition of Research

- Research is the systematic process of collecting and analyzing information to increase our understanding of the phenomenon under study.
- The general aims of research are to observe and describe, to predict, to determine causes and explain.
- Research is considered as an impartial, objective, empirical and logical analysis and recording of controlled observations that may lead to the development of generalizations, principles or theories.
- The role of the researcher is to contribute to the understanding of the phenomenon and communicate the understanding to others.

- Research

- ✓ Systematic:- ordered, planned and disciplined
- ✓ Controlled:-interested in influencing or changing a particular event or different purposes
- ✓ Empirical:-putting beliefs, ideas or assumptions to a test (attempts to answer questions by direct observation or personal experience)
- ✓ Critical:-many truths are tentative and subjected to change as a result of subsequent research

## **2.2. Characteristics of Scientific Research**

- Is directed toward the solution of a problem
- Based upon observable experience or empirical evidences
- Demand accurate observation and description
- Involving gathering new data from primary or first-hand sources or using existing data for a new purpose
- Requires expertise
- Is characterized by patient and unhurried activity
- Is carefully recorded and reported



## 2.3. Goals of Scientific Research

- The purpose of scientific research is problem solving (the problem could be of an immediate and practical value)
- By conducting scientific research, researchers attempt to reduce the complexity of problems, discover the relationship between seemingly unrelated events, and ultimately improve the way we live
- Seeking solutions to practical or theoretical problems involves doing important tasks such as describing, explaining, predicting, controlling and comparing phenomenon

## 2.3 Philosophy of Research

- All research is based on assumptions about how the world is perceived and how we can best come to understand.
- Nobody really knows how we can best understand the world, and philosophers have been arguing about the very question for long.
- Epistemology is the branch of philosophy that studies the nature of knowledge and the process by which knowledge is acquired and validated.
- Epistemology and methodology are intimately related: the former involves the philosophy of how we come to know the world and the latter involves the practice.

- There are different schools of thought that describe the nature of reality, mainly Positivism and Post-positivism

### a) Positivism

- Is a position that holds that the goal of knowledge is simply to describe the phenomena that we experience
- Positivists believe that the purpose of science is simply to stick to what we can observe and measure
- The key approach of the scientific method is the experiment, the attempt to discern natural laws through direct manipulation and observation

- The following are three tenets of positivism
  - Scientific attention should be restricted to observable facts
  - The methods of physical sciences (e.g. quantification, separation into independent and dependent variables, and formulation of general laws) should also be applied to the social science
  - Science is objective and value free

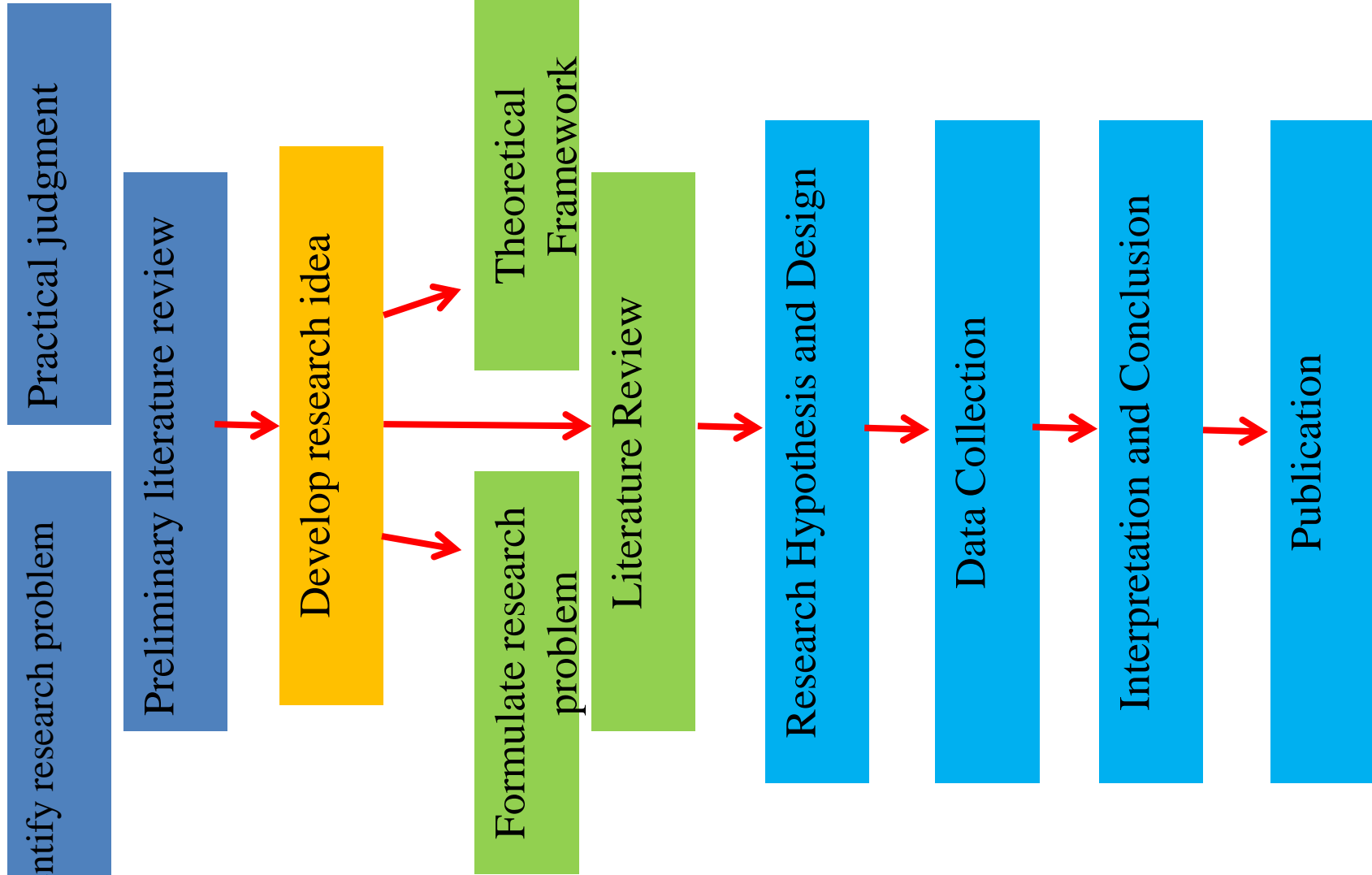
## b) Post-positivism

- Rejects the central tenets of positivism and recognizing that the way scientists think and work and the way we think in our everyday life are not distinctly different.
- Scientific reasoning and common sense reasoning are essentially the same process
- Most post-positivists are constructivists who believe that we each construct our views of the world based on our perception of it.

# 4. Research Process

Planning Research

Conducting Research



# Assignment-1

1. Why is the scientific method superior to any other sources of knowledge?
2. What is the difference between research method and methodology?
3. What is the difference between common sense and science?

