
Sources of Knowledge

Task1: Which of the following responses best describe the definitions?

Knowledge based on authority- the rationalist approach- the method of tenacity- insightful observation- the scientific method.

1. To know about a specific topic, people tend to rely on experts and knowledgeable people in a certain field.
Knowledge based on authority
2. Data and observations are systematically collected and analysed in order to obtain deep understanding of a phenomenon.
The scientific method
3. People hold the truth because they believe it to be true.
The method of tenacity
4. Knowledge is created through gathering information from one's experience with the world and using such information to form methods and conclusions.
Insightful observation
5. People can create knowledge through thinking and deduction. This leads to the creation of generalizations and predictions. If A causes B, and B causes C, then A most probably causes C.
The rationalist approach

What is Research?

Task1: Read the following definitions of research. What key words can you identify? Underline them.

What is Research?

- ▶ Research is 'a systematic investigation to find answers to a problem' Burns (1997:2)
- ▶ 'Research is a procedure by which we attempt to find systematically, and with the support of demonstrable fact, the answer to a question or the resolution of a problem'. Leedy (1989:5)
- ▶ The *Oxford Encyclopedic English Dictionary* defines it as:

(a) the systematic investigation into the study of materials, sources etc. in order to establish facts and reach new conclusions

(b) an endeavour to discover new or collate old facts etc. by the scientific study of a subject or by a course of critical investigation.

- ▶ 'The word research is composed of two syllables, re and search. The dictionary defines the former as a prefix meaning again, anew or over again and the latter as a verb meaning to examine closely and carefully, to test and try, or to probe. Together they form a noun describing a careful, systematic, patient study and investigation in some field of knowledge, undertaken to establish facts or principles'. Grinnell(1993: 4)
- ▶ 'Research is a structured inquiry that utilises acceptable scientific methodology to solve problems and creates new knowledge that is generally applicable'. Grinnell(1993: 4)
- ▶ 'Scientific methods consist of systematic observation, classification and interpretation of data. Now, obviously, this process is one in which nearly all people engage in the course of their daily lives. The main difference between our day-to-day generalisations and the conclusions usually recognised as scientific method lies in the degree of formality, rigorousness, verifiability and general validity of the latter'. Lundberg (1942: 5)

Task2: Write the definitions of the following words. Use your dictionary.

Systematic:

Investigation:

Methodology:

Task3: How is scientific research different from everyday life investigation?

It differs in the degree of formality, rigorousness, verifiability and validity.

Task4: Read the statements and write 'true' or 'false'.

- 1-Research is a personal work based on one's feelings, opinions and ideas. **False**
- 2-Research is a collection of long quotes or paragraphs copied from different sources from the Internet, books and articles. **False**
- 3-Research is a mere summary of information found in different sources. **False**

The Characteristics of Scientific Research

- ▶ **Generated by a question or a problem.**
- ▶ **Goal- oriented:** research needs to have clear statement of objectives and what is intended to be done to attain them.
- ▶ **Reiterative:** it is based on previous knowledge. This knowledge is expanded by the research work. A resolution a problem by a specific research will also give rise to new questions and problems.
- ▶ **Rigorous:** the procedures used to find answers to the research questions need to be relevant, appropriate, and justified.
- ▶ **Systematic:** research procedures need to follow logical sequence. They cannot be done haphazardly.
- ▶ **Valid and verifiable:** the findings and the conclusion of the research need to be correct and can be verified by the researcher and others in the field.
- ▶ **Empirical:** conclusions need to be based on evidence gathered from information collected from real life or from observation.
- ▶ **Critical:** doing research requires the ability to analyse, synthesise and evaluate information.

Why Doing Research?

The Objectives of Research

- ▶ Study and describe accurately the characteristics of situations, problems, phenomena, services, groups, or individuals.
- ▶ Discover and establish the existence of relationship, association, and interdependence between two or more aspects of a situation or phenomenon.
- ▶ Propose and test certain hypotheses.
- ▶ Test reported findings and conclusions on new data and novel conclusions on previously reported data.
- ▶ Understand different phenomena and develop new perceptions about it.
- ▶ Explain unexplored horizons of knowledge.

The Motives behind Doing Research

Task1: A- Read the following paragraph and underline the reasons that motivate people to do research.

Research is a long process, so the main driving factor need to be motivation. For some researchers and post-graduate students, the main objective behind the research is to earn a degree. To philosophers and thinkers, research may mean the outlet for new ideas and insights, whereas to intellectual people research may mean the development of new styles and creative work. Irrespective of the domain, research is conducted to increase understanding of professions, advance the professional knowledge and perfect its practices. What people do nowadays in their professions has been tested and developed by researchers.

B- Can you think of other reasons?

C- If you decide to pursue an academic career and do research in your field, what will motivate you?

Types of Research

There are different types of research according different perspectives

Types of research according to their objectives:

Type of research	Aim
Descriptive	To describe what is prevalent regarding a group of people, a phenomenon, a situation, a program or an outcome. Example 1: To describe the attitudes of students towards a specific teaching technique. Example 2: To describe the extent of parental involvement among university students.
Correlational	To establish or to explore a relationship, an association or an interdependence between two or more aspects of a situation. Example 1: To ascertain the effectiveness of a specific teaching technique. Example 2: To explore the impact of parental support on university students.
Explanatory	To explain why and how a relationship is formed. Example1: How does a specific teaching technique improve students' marks. Example2: How does parental support affect university students' performance. Example3: Why do some parents support university students while others do not?
Exploratory	To explore an area where little is known in order to see the feasibility of carrying out further research or to explore and test research tools. It is flexible and it can have questions and objectives of all types. Example: Would teachers be interested in applying a new specific teaching technique in classroom?

Research can be classified according to its objectives into these four types. The first three ones are not exclusive. A research can be a combination of two or the three of them.

Types of research according to their inquiry mode:

Type of research	Mode of inquiry
Quantitative	Predetermined and structured process where data is measured and quantified for the aim of studying the extent of a variation of a phenomenon. Example: What is the extent of the use of a specific classroom management technique for large classes among teachers of a specific school?
Qualitative	Flexible and unstructured process where data is described and narrated in order to explore the nature of a phenomenon. Example: What classroom management techniques do teachers in a specific school use in large classes?

The choice of a specific problem entails the choice of a specific type of inquiry. However, some research works involve both, quantitative and qualitative inquiry modes. For example, if a researcher wants to investigate the types of classroom management techniques and the extent of their use in a specific school, they cannot restrict themselves with one mode of inquiry.

Research Methodology

Research methodology is the science of studying how research is done scientifically. It is interested in the various steps that are adopted by a researcher in conducting the research along with the logic, assumptions, justification, and rationale behind these steps. It is concerned with why a research study has been undertaken, how the research problem has been defined, in what way and why the hypothesis has been formulated, what data have been collected and what particular method has been adopted, why particular technique of analysing data has been used and a host of similar other questions.

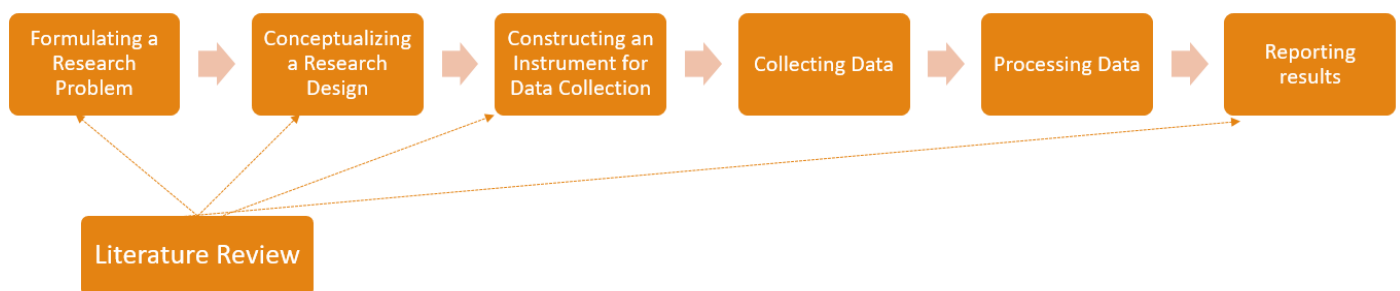
Research methods are the different methods used in performing research operations. All of the methods, approaches, processes and techniques used by researcher during research process can be referred to as research methods.

Research Process

A research process has three main phases

Phase	Phase I	Phase II	Phase III
Main Task	Deciding What questions you need to answer by your research	Planning How you are going to gather information and evidence to answer your research questions	Undertaking (Doing)

The research steps:



Literature review refers to reviewing the existing works (theories, practices, research works...etc) done in the field for the aim of acquainting the researchers with the existing body of knowledge, establishing background for their work, developing appropriate research methodology and integrating their findings within their field of study. Therefore, this step accompanies other steps in the research process as suggested by the graph.

Task1: Classify the research steps according to their appropriate phase.

Phase 1: **Formulating a research problem- literature review.**

Phase 2: **Conceptualizing a research design – constructing an instrument for data collection- literature review.**

Phase 3: **collecting data- processing data and reporting results literature review.**