

Why P-3: A course in Research Methodology

Source: Singh (2006), Kothari (1985) and Dawson (2002)

The RESEARCH PROPOSAL OR SYNOPSIS

A research proposal is required by many universities and institutions, and it serves as a useful basis for the evaluation of a project as well as a guide line for the researcher.

The proposal contains a clear and concise statement of the problem, the hypothesis involved, a recognition of the significance of the problem, definitions of the important terms, assumptions and limitations, an account of related literature, an analysis of proposed research work, and a time schedule.

The proposal or synopsis is placed before the research degree committee to examine its worth.

The final approval is given by this committee at university level. It is like a blue print of research project.

The preparation of a research proposal or synopsis is an important step in the research process.

The components of a research proposal

A worthwhile research work is likely to result only from a well-prepared and well-designed proposal or synopsis.

A research proposal includes the following essential parts:

- 1.The problem and statement of the problem.
- 2.The review of literature or theoretical framework of the study.
- 3.The hypotheses and objectives.
- 4.The methodology and procedure of the study
- 5.Educational implications or significance of the problem
- 6.Definitions, assumptions and delimitations.
- 7.A tentative structure of the work/thesis/project.
- 8.Bibliography.

Research Methodology

The term 'Research' consists of two words:

Research = Re + Search

'Re-' means again and again and 'Search' means to find out something, the following is the process:



Therefore, research means to observe the phenomena again and again from different dimensions.

For example there are many theories of learning due to the observation from different dimensions.

The research is a process in which a person observes the phenomena again and again and collects the data and on the basis of data s/he draws some conclusions.

Rusk, Mouly, Cornell, Woody, Crawford, Cook, Monroe, Rummel and many others have tried their ways to define Research Methodology.

However, one of the most convincing definitions is given by Redman and Mory which reads as “Research is a systematized effort to gain new knowledge.”

GENERAL CHARACTERISTICS OF RESEARCH

The following characteristics may be gathered from different definitions of ‘Research’

- 1.It gathers new knowledge or data from primary or first-hand sources
- 2.It places emphasis upon the discovery of general principles.
- 3.It is an exact systematic and accurate investigation.
- 4.It uses certain valid data gathering devices.
- 5.It is logical and objective.
- 6.The researcher resists the temptation to seek only the data that support his/her hypotheses.
- 7.The researcher eliminates personal feelings and preferences.

8. It endeavors to organize data in quantitative terms.
9. Research is a full of patience and unhurried activity.
10. The researcher is willing to follow his/her procedures to the conclusions that may be unpopular and bring social disapproval.
11. Research is a carefully recorded and reported thing.
12. Conclusions and generalizations are drawn very carefully and cautiously.

SPECIFIC CHARACTERISTICS OF RESEARCH

1. A sound philosophy of social studies as the basis of research
2. Research is based on insight and imagination:
3. Research requires an inter-disciplinary approach
4. Research usually employs deductive reasoning process
5. Research should come out of a desire to do things better
6. Research in social sciences is not as exactly the same to that of physical sciences
7. Research is not the field of specialists only
8. Research generally requires inexpensive material

9. Research is based on the subjectivity and intangibility of social phenomena
10. Research is perhaps incapable of being dealt through empirical method
11. Research is based on inter dependence of causes and effect
12. Research cannot be a mechanical process

OBJECTIVES OF RESEARCH

The research includes the following three objectives:

1. Theoretical Objective: Those researches whose objectives are theoretical, they formulate new theories, principles or laws.

Such type of research is explanatory because it explains the relationships of certain variables.

These researches contribute some basic knowledge to the human knowledge.

The researches in different disciplines i.e. Physics, Chemistry, Mathematics etc. have the theoretical objective.

- The term *scientific or even science* may be thought of as an approach to the gathering of knowledge rather than as a field or subject matter.
- Science, to put it in simplest way, consists of two primary functions: (1) the development of theory and (2) the testing of substantive hypotheses that are deduced from theory.
- The scientist, therefore, is engaged in the use, modification, and proposing or creating a theory.
- The scientist may emphasize an empirical approach in which data collection is the primary method.
- It is a rational approach in which logical and deductive reasoning is primary, or a combination of these approaches which is most common in its execution.
- Regardless of the emphasis, the scientist begins with a set of ideas that direct the effort that entails the development or testing of a theory.
- By attempting to apply the rigorous, systematic observation and the analysis used in the physical and biological sciences, the research in social sciences/behavior have grown to a some immeasurable height.

- Due to this height, the fields of anthropology, economics, education, political science, psychology, and social psychology and linguistics have all been recognized as sciences by many authorities.
- One of the reasons for this acceptability is that these fields are founded/grounded on scientific methodology.
- Some reject this concept, and they still define science in terms of subject matter rather than methodology.
- Historically their position can be readily explained, because scientific methods were first used in the investigation of physical phenomena.
- Only within the last century it has happened so that the methodology of science has been applied to the study of various areas of human behavior.
- Because these are newer areas of investigation, their results have not achieved the acceptance and status that come with the greater maturity and longer tradition of the physical sciences.

- The uniformity of nature is a reasonable assumption in the world of physical objects and their characteristics, but in the area of social behavior such assumptions are not warranted.
- Human nature is much more complex than many of its discrete elements, even if they could be isolated and identified.
- Because human nature is so complex, it is much more difficult to develop sound theories of human behavior than to predict occurrences in the physical world.
- Research on human subjects has numerous problems:
- **1.** No two persons are alike in feelings, drives, or emotions. What may be a reasonable prediction for one may be useless for another.
- **2.** Human behavior is influenced by the interaction of the individual with every changing element in his or her environment.
- **3.** It is very difficult for the researchers to take in account human beings under investigation and observe their behavior in a uniform way without fallacies of some kind.

2. **Factual Objective** : Those researches whose objective is factual, they find out new facts. This objective is by nature descriptive.

These researches describe facts or events which happened previously. Such type of research is done in social sciences.

3. **Application Objective**: The research having application objective does not contribute a new knowledge in the edifice of human knowledge but suggests new applications.

By application we mean improvement and modification in practice. For example if anyone gives a new application of electricity then such type of research has application objective.

CLASSIFICATION OF RESEARCH

In actual practice, research is conducted at different levels and for different immediate purposes.

The level at which a person operates in the field depends on the objectives s/he intends to accomplish.

Generally research has two levels:

1. Basic Level: Trevers has defined basic level as basic research and it is designed to add an organized body of scientific knowledge and does not necessarily produce results of immediate practical value.

2. Applied Level: Applied research is undertaken to solve an immediate practical problem and the goal of adding to scientific knowledge is secondary.

TYPES OF RESEARCH

There are three types of objectives of research: theoretical, factual and application.

The first two types of objectives of research contribute new knowledge in the form of new theory and facts in a particular field of study or discipline.

The third objective does not contribute to knowledge but suggests new application for practical problems.

Steps of Research

The research work is done by reflective thinking and not by traditional thinking. The reflective thinking functions systematically. The steps of research are drawn from reflective thinking.

The following are the six steps of research:

1. Selection of the problem
2. Formulation of hypotheses
3. Design of research
4. Collection of data
5. Analysis of data
6. Formulation of conclusions

First Step : The problem is selected and defined. The feasibility of the problem depends on its delimitations. Hence, the problem is also delimited in this step.

Second Step: Some tentative solutions are given for the problem when these solutions are based on certain rationale they are termed as hypothesis. Therefore, in this step hypotheses are formulated.

Third Step : These hypotheses are subjected to verification. A design of research is developed for collection of data or evidences for testing the hypotheses. It involves method, sample and techniques of research. The appropriate method and techniques are selected for this purpose.

Fourth Step: The observations and research tools are administered on the subjects and their responses are scored out. Thus, the obtained data are organized in tabulated form.

Fifth Step: The appropriate statistical techniques are used to analyze the data so that some decisions may be taken about the hypotheses. The results are used to draw some conclusions.

Sixth Step: The results are discussed and some conclusions are drawn in the form of new information, theory, facts and solution for the practical problems.

These steps are followed in all kinds of research. There might be some fine adjustment of one or two steps or may be redefined in a bit different way, but these steps are found in most of the research work in one or other forms.

Characteristics of an Investigator

A good research worker should possess the following qualities:

- 1.He should have the full understanding about the functions and activities of his job.
- 2.He should have the reflective thinking about various dimensions of his job activities.
- 3.He should be sensitive towards his job. A sensitive person can perceive the problem. Most of the teachers are problem blind because they are not sensitive towards the job.
- 4.He should be creative and imaginative. These abilities are essential in formulating the hypotheses for his problem.
- 5.He should have the knowledge and training of research.
- 6.He should have great insights in his area of research.
- 7.He should have the scientific attitude for studying and observing things.
- 8.There should have an objectivity in his thinking.
- 9.His behavior should be democratic. The research design should not intervene the activities of other researchers in similar area.

10.The most important characteristics is the patience and pursuant of the investigator.

11.He should have knowledge and skill of measuring instruments and elementary statistics.

12.He should have open mind so that he can discuss his problems with his colleagues and experts of the field to have correct picture of the problem.

13.He should have an urge to bring excellence in his job.

14.He should be economical in designing the project from time, energy and money point of view.

Hypothesis:

We will talk about it in the next class 😊