PGSO S1 04

Research Methodology

SEMESTER - I

SOCIOLOGY

PAPER - 04

BLOCK - 1

KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

RESEARCH OF METHODOLOGY

FIRST SEMESTER

BLOCK - 1

DETAILED SYLLABUS

UNIT 1:	**Research**	**Pages :**	**7-20**
	Meaning, types of research and ethics in social research		
UNIT 2:	**Philosophical background and socio-political context of formation of methods in Sociology**	**Pages :**	**21-36**
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BLOCK INTRODUCTION

The first unit of this block is Research: Meaning, types of research and ethics in social research. This unit will discuss about the meaning and type of research. The unit will also discuss the ethics required to conduct research.

The second unit is Philosophical background and socio-political context of formation of methods in Sociology. This unit will discuss the origin of the methods employed in Sociology. This unit will also discuss about the enlightenment philosophy and the romantic philosophy.

The third unit is Common Sense and Social Reality. This unit will discuss the nature and subject matter of Sociology. The unit will also discuss the relation between Sociology and Commonsense.

The fourth unit is Methods in Social Research (I). This unit will discuss the historical method, comparative method, case study method and content analysis as the methods of conducting research.

The fifth unit is Methods in Social Research II. This unit will discuss social survey and experiment as methods of conducting research.

The sixth unit is Inductive and Deductive method. This method will discuss about inductive and deductive method, the meaning of hypothesis and significance of hypothesis.

The seventh unit is Research Design. This unit will discuss about the meaning of research design, different types of research design and their application.

While going through this block you will come across some boxes which are put on the left side or right side of the text. These boxes will provide the meanings of some words and concepts cited within the text. Apart from this, there will be some broad and short questions included under Activity and Check Your Progress in every unit. Activities will increase our thinking capacity because questions put in Activity are not directly derived from the text. But answers to the short questions are provided in the section. Answers to Check Your Progress. Besides, there are some text-related questions which are put in Model Questions. These questions will help you in selecting and mastering probable topics for the examination so that you can prepare for the examination with confidence.

UNIT 1: RESEARCH

UNIT STRUCTURE

1.1 Learning Objectives

1.2 Introduction

1.3 Meaning of Research and Features of Research

1.4 Meaning and definition of Social Research

1.5 Types of Research

1.6 Steps in the Research process

1.7 Ethics in social research

1.8 Let us Sum up

1.9 Answers to check your progress

1.10 Further Readings

1.11 Possible Questions

1.1 LEARNING OBJECTIVES

After going through this unit, you will be able to –

- know the meaning of research
- know the type of research
- know the steps in the research process.

1.2 INTRODUCTION

Different disciplines are engaged with the task of unravelling the hidden truths through research. Research employs various methods to unravel truth. On the basis of their object of inquiry all the disciplines employ different methods . In the subsequent chapters we will learn about different methods employed by sociologists while doing research. But before knowing the various methods of research it is pertinent to understand the meaning of research, different types of research and the ethics required while conducting a research. Therefore, in this unit we will discuss what is meant by research, different types of research and the ethics required to undertake a research.

1.4 MEANING AND DEFINITION OF SOCIAL RESEARCH

According to **Pauline V. Young**, 'social research may be defined as a scientific undertaking which, by means of logical and systematised techniques aims to: i) discover new facts or verify and test old facts ii) analyse their sequences, interrelationships, and causal explaination… iii) develop new scientific tools, concepts and theories which would facilitate reliable and valid study of human behaviour'.

According to O.R Krishnaswami and M. Ranganathan, 'Social sciene research is a systematic method of exploring, analyzing and conceptualizing human life in order to extend, correct or verify knowledge of human behaviour and social life'.

According to **Wallace** and **Wallace**, 'Sociological research refers to the structural observation of social behaviour'.

1.5 TYPES OF RESEARCH

Research can be classified into the following categories

- **Basic and Applied Research**: Those research which are concerned with generating or seeking knowledge just for the sake of knowing are known as pure or basic research. This kind of research is in quest of new knowledge. This kind of research is not concerned with the practical utility of the research. Such research generally leads to the development of concepts and terminologies. On the other hand the sole aim of applied research is to analyse and discover the solution of an existing social problem. For example if some one tries to understand the cause of increasing delinquency among the children then it will come under the domain of pure or basic research. But if some one tries to find how delinquent behaviour can be rectified then it will come under the purview of applied research. Applied research is extensively employed for planning and designing policies by the government. For example the government conducts extensive research to understand the

- **Experimental and Evaluative Research**: Experimental researches are generally conducted in controlled environment. In a controlled environment a researcher is able to manipute the independent variable to study its impact over the dependent variable variables. In these researches indentification of the independent and the dependent variable is important. These researches require precisely observing and carefully measuring that observation to draw conclusion. Such experiments can be conducted in laboratories but social researches cannot be conducted in laboratories. Therefore some social researchers rely on quasi-experimental research. To conduct such research, researchers look out for situations where there is a possibility of observing as well as measuring the impact of isolated variables. In quasi experimental research external control over the variables is not employed. For example a research on discplacement due to the construction of dams could be a quasi-experiment. On the other hand those researches which are conducted with an intention to **evaluate** progrmmes and policies, their effectiveness etc are known as evaluative researches.
- **Participatory Action Research (PAR)**: According to Gstaven, the practical orientation is the defining feature of a PAR. These researches aims at solving the practical problems that arise in work or organisational setups. So these researches try not only to deal with the problems but also tries to discover the means to bring in changes. To introduce change this research relies on feedback of people which are evaluated and then implemented. This research involves two stages. First, the research is carried out and in the second stage the knowledge gained is applied.
- **Explainatory (causal) and Longitudinal Research**: Explainatory research tries to establish the relation between different variables. It is mainly concerned with the 'why' aspect of a phenomenan. For example a research on juvenile delinquency would seek to question why children commit crime. On the other hand a longitudinal research seeks to study same variables (may be a group of people, a school,

(b) Ethnomethodology: It is another qualitative research paradigm. Ethnomethodologists argue that that the researchers who employ naturalistic research tend to lose the capacity to analyse the commonsensical world of those being studied, if the analytical tools and insights are also borrowed from those being studied. The basic difference between naturalism and ethnomethodology is that naturalists try to understand the social reality as the participants understand but ethnomethodologists are interested in recognising the 'methods' through which understanding occurs.

❍ **Advantages of Qualitative Research:**

a) It provides flexibility to a researcher to conduct an in depth study on a particular topic.

b) The methods opted by qualitative research enables a researcher to encounter with the unknown domains of knowledge.

c) Qualitative research is considered 'relatively' inexpensive

❍ **Disadvantages of Qualitative Research:**

a) Qualitative research is often criticized on the ground that in such a research the researcher tend to get subjectively involved with the object of inquiry.

b) Qualitative research is not replicable and therefore it is criticized on the ground that qualitative research is not often generalizeable.

c) Another limitation of qualitative research is that here the data collection process is more time consuming.

➢ Quantitative Research

The research where the data collected is measureable or quantifiable is known as quantitative research. In this type of research different statistical methods are used to explain the observation and to arrive at the conclusion. Quantitative research seeks to quantify or reflect with numbers, observations about human behaviour. This kind of research attempts to describe relationships among the variables mathematically and to apply some form of numerical analysis to the social relations being examined.The survey method and experimental methods are examples of quantitative methods.



CHECK YOUR PROGRESS

Q1: a) What is the full form of PAR.

_____

_____

b) Mention two types of research.

_____

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1.6 STEPS IN THE RESEARCH PROCESS

Investigating an object of inquiry requires following certain steps which makes the research more systematic and authentic. The steps are briefly discussed below:

- *Identification of the problem*: The first step in every research is to first identify the problem which will be the focus of the investigation. Articulation of the problem becomes the research question of the study. For example, a researcher might identify increasing delinquency as a problem and might pursue it further as his/her object of inquiry.
- *Review of literature*: After identifying the focus of the research, a researcher has to start reviewing the works already done in that topic. This step helps a researcher to attain more knowledge about the subject. A researcher becomes aware of the kind of works that has been already done in that area, how those studies were done, the problems that researchers had to encounter while studying them etc. Since it is called a 'review' a researcher should not merely read works but has to identify the limitations or the unexplored arenas of those studies and accordingly they should give attention to the limitations and the unexplored arenas.
- *Formulating a hypothesis*: The knowledge gained through review of literature helps a researcher to develop a clarity regarding the problem. Therefore in the third step the researcher defines the

the methods employed in undertaking the research, the tools used, the findings and also the shortcomings of the research. This helps in opening up the work for further research in that particular area and also helps in examining the reliability and validity of the research.



LET US KNOW

Reliability and validity: According to **M. Franscis Abrahim**, 'Reliability refers to consistency in measurement. A realiable instrument will produce the same result with repeated measurement'. But an instrument can be reliable without being valid. This implies that a measuring scale with an inch missing will always give the same result. But that result will not be valid.

1.7 ETHICS IN SOCIAL RESEARCH

Ethics generally implies those moral principles which govern an individual's behaviour and accordingly the activities performed by him or her.

Webster's Dictionary defines ethical behaviour as, 'conforming to the standards of a conduct of a given profession or group'.

But what is to be considered as right or wrong may vary from person to person and group to group. Ethics are important while conducting research also. According to the Oxford Dictionary of Sociology, research ethics refers to, 'the application of moral rules and professional codes of conduct to the collection, analysis, reporting, and publication of information about research subjects, in particular active acceptance of subject's right to privacy, confidentiality, and informed consent.' According to the early sociologists the primary ethical goal of the discipline was to improve society's understanding of itself and not to determine the specific direction or to develop technology for social change.

According to the contemporary sociologists the most important ethical goal is to stimulate consciousness. According to them social



CHECK YOUR PROGRESS

Q2: a) Mention the different steps in a research process.

_____

_____

b) What is meant by ethics?

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1.8 LET US SUM UP

- Research is a systematic and scientific inquiry to find new knowledge and question the validity of the existing knowledge.
- Research aims to discover and diffuse knowledge.
- Researches are directed to discover the solution of the existing problems.
- Research aims for the development of theories.
- Researches are based on empirical evidence.
- There are different types of research on the basis of the objective of the research.
- The research process involves a number of steps like identification of problem, review of literature, formulating a hypothesis, selecting a research design, collection of data, analysis of data, and finally writing a report.
- While conducting a research following a set of ethics is very important.



1.9 ANSWERS TO CHECK YOUR PROGRESS

Answer to Q1 :

a) Participatory Action Research

UNIT2 : PHILOSOPHICAL BACKGROUND AND SOCIO-POLITICAL CONTEXT OF FORMATION OF METHODS IN SOCIOLOGY

UNIT STRUCTURE

2.1 Learning Objectives

2.2 Introduction

2.3 Meaning of Science and Method

2.4 Philosophical background of the Evolution of Methods

- 2.4.1 The Age of Reason: Enlightenment
- 2.4.2 Enlightenment thinkers
- 2.4.3 The rise of Romantic Conservatism

2.5 Possitivism

2.6 Let us Sum Up

2.7 Further Readings

2.8 Answers to check your Progress

2.9 Possible Questions

2.1 LEARNING OBJECTIVES

After going through this unit, you will be able to-

- know the intellectual origin of the methods employed in sociology
- know about Enlightenment philosophy
- discuss about romantic conservatism

2.2 INTRODUCTION

Human beings, throughout ages have been confronted with the question as to how to understand and unravel the reality (about physical and social world). Accordingly, in every stage of human history various methods or approaches were developed to understand reality. By employing those methods, knowledge in each stage was generated to explain the different phenomena occuring in and around the world. Earlier mysticism

established one'. In other words, method is a series of steps selected to acquire knowledge or to perform a task. In our daily life, while performing different activities we resort to different methods in order to perform the tasks efficiently and effectively. In the similar way in order to find truth about the world around us different researches are conducted every day. However the most important aspect of any research is the it must follow a particular logical procedure. Sociology is a discipline that studies the social reality which is very complex. In order to understand that complex reality certain methods are developed over a long period of time and methods are still in the process of getting discovered. Thus, before embarking about the different approaches or methods to understand social reality, let us first discuss how scientific methods have evolved.

2.4 PHILOSOPHICAL BACKGROUND OF THE EVOLUTION OF METHODS

We have already read in the previous section that earlier religion provided explanation about the physical and the social world. Accordingly those explanations formed the basis of organising the social life of people in the societies. Religion defined what ought to be done, by whom and when. It provided a supernatural logic for doing and believing in things in a certain way. In other words religion provided the logic about the everyday practices, beliefs and the values held by the people at that time. However, gradually natural sciences contested the beliefs held and propagated by the Church regarding the natural or the physical world on the basis of their discoveries. The discovery of new knowledge was generated after long engagements of scientists and by building upon the works of ancient Greek Philosophers like Aristotle, Plato etc

On the basis of the new knowledge laws were discovered and with the help of those laws several new discoveries were made. These discoveries were based on careful observations and the willingness to question the existing knowledge. Thus, the scientific discoveries were based on **observation** and **experimentation** as the 'method' of study. This method came to be known as **empiricism**. First of all, according to empiricism

impressions and materials provided by our sense organs. Therefore, he advocated for empirical and experimental method to find truth. **Sir Isaac Newton's** research was basically based on observation and the data (which are also known as facts) gathered through experience. According to him it is important to observe and gather the facts carefully. Along with this he also argued that it is important to find the relation between the facts since facts are not chaotic. There exists a definite relationship between different facts. The relationships can be discovered through careful observation and compilation of the facts that leads to discovery of a coherent whole or the universal law.This method was initiated by Johannes Kepler (German mathematician) and Galileo Galilei (Italian Physicist) but Newton gave it a concrete form.Thus, his investigations rested on the assumption of the existence of a universal law.



CHECK YOUR PROGRESS

Q1: a) Who said, 'Cogito Ergo Sum'?

_____

_____

b) Name a book authored by Franscis Bacon.

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LET US KNOW

Aristotle (384-322BC): He is considered a physicist but his assumptions regarding the universe and the position of the earth was based on his 'thinking'. Measurements to verify those assumptions were not developed. 2000 years later experimental physicist like Galileo had developed tools through experiments to verify those assumptions.

Nicolaus Coppernicus (1473-1543): On the basis of his calculations Copernicus had revealed that negated the geocentric theory of

Church. However, despite accepting the significance of the sense organs (matter), philosophers like Etienne Bonnot de Condillac recognised that the active role played by the mind cannot be denied as it is the mind which distinguishes, compares and combines the data received from the sense organs.

However, finally it was Imannual Kant who combined the intellectual forces which remained separated till 17th century. He advocated that both observation and reason are crucial for discovering truth. Thus, two distinctive approaches were combined to form one unified 'methodology'. Accordingly, observation and reason came to be known as the *twin* pillars to achieve truth. Since it is in this period that these two philosophies were combined, this phase came to be known as the enlightenment. Therefore, 18thcentry intellectuals (who are known as philosophes) tried to employ observation and reason to understand society as the European society was experiencing a lot of repression from the Church in their social life. They tried to advocate that 'man can attain the highest level of perfection'. This is also known as the enlightenment philosophy. However, the then existing institution prohibited man to attain perfection. Therefore, the enlightenment thinkers argued that the then existing institutions were irrational and a change was required.Accordingly they began to question the "Divine Right" theory propagated by the Church. According, to this theory, the Kings have derived their power and authority over people directly from God. Therefore they are accountable for their actions to God only and not to their subjects. This theory, promoted monarchical absolutism. This theory was contested by the Enlightenment thinkers and according to them the origin of a state is not divine; rather it is created by a social contract.

2.4.2 Enlightenment thinkers

Let us briefly discuss the views of two important enlightenment thinkers or philosophes:

had resulted from the uncritical acceptance of the Enlightenment philosophy. These philosophers wanted the revival of order in society and they are known as the Romantic conservatists and the philosophy advocated by them is known as **Romantic Conservatism**. They asserted the significance of imagination, poetry and religion in 'understanding' and shaping the world against mechanistic Universal law advocated by Newton and followed by the enlightenment thinkers. They argued that institutions in a society should be formed in a slow organic process rather than through calculative and deliberate rational actions. The views of some of the Romantic Conservative philosophers are briefly discussed :

- **David Hume**: A significant contribution towards romantic conservatism was reflected in the works of David Hume. He argued that causality is merely an idea or one of the perspectives to view reality. Therefore, though he accepted the Newtonian conception of causality yet he asserted that it is the logical categories of his mind which deciphered such an idea of the universe. Hume's idea was derived from Kantian philosophy according to which the universe cannot be known in its totality. Our finite mind can grasp only certain aspects of the infinite reality. In other words, discovering the ultimate 'truth' is an endless journey. This view gives premium to the role of the mind in determining knowledge (which is often a minute segment of the total reality or truth). So, this view argued that knowledge derived from other domains like spirituality, art or morality is also valid but it was rejected earlier. Different methods present a different dimension of the infinite multi-faced reality.

  During the enlightenment phase, the knowledge derived from the domains like spirituality, art etc was considered as inferior. The enlightenment thinkers argued that knowledge about both nature and society can only be derived through science and necessarily by the method employed by the natural sciences. However Kant (though an enlightenment philosopher) tried to

his historical and organic conception of society, forwarded a new perspective to understand the structure of a society and the process which changed it.Most importantly he argued that society is different from other objects in nature. Therefore, the 'methods' employed by natural or physical sciences cannot be applied mechanically to understand society.

- **Georg Wilhem Friedrich Hegel**: The historical and conservative conception of society was further developed by German Philosopher Georg Wilhem Friedrich Hegel(1770). But Hegel had combined the Romantic-Conservative conception of historical development and the conception of rationality which was emphasized by the Enlightenment thinkers. According to Hegel, Reason is not just an abstraction of the reality but reason is the immanent force which determines the structure and development of a society. According to him, idea derives from reasoning which keeps on developing continuously. Moreover, idea is an 'impersonal, logical and a cosmic' process which connect both the natural and the social spheres. By synthesizing the philosophy of Romantic Conservatism and that of Enlightenment Hegel argued that change is constant and a continuous process but change occurs in society dialectically. In other words, according to Hegel, in every age some idea about different aspects of society emerges. Gradually another idea emerges which counters the existing idea. This leads to a conflict or a dialectic between the two ideas and gradually a synthesis is established between the conflicting ideas that becomes the dominant idea of that particular age. In other words as idea develops, a society also develops accordingly.
- **Louis de Bonald** (1754) and **Joseph de Maisre** (1753): The change in European society in response to the revolution was a result of the Enlightenment philosophy which came under severe criticism. In response to this situation Bonald and Maisre had forwarded a counter revolutionary philosophy which provided an

turned out to be some of the important sociological concepts yet their views also reflected a strong inclination towards theology.

- **St. Simon**: St. Simon was a Romantic Conservatist and was influenced by Bonald and Mistre but in a different way. He argued that in the changed circumstances, maintaining stability and unity would be possible by the use of 'scientific knowledge'. He indicated the need to understand human conduct scientifically as the studies conducted by natural or physical sciences to understand a physical phenomenon. Thus, he advocated positivism as the method to understand social reality. He further pointed that the knowledge generated through scientific method would generate ideas and consciousness suitable for the people of that age and thereby ultimately build a new society. But in order to understand the need of the people and to build a new society, a positive philosophy was required which would study human society scientifically. The task of this science would be to discover the laws of social development which would discover the form required for evolution or progress. According to Simon, progress takes place in different stages where each stages add to the progress of the previous human society. He believed that by discovering the law of social development, man will be able to identify the direction of progress. This will enable people to deduce the future by understanding the past and the future. Further, it would enable people to adapt to change in a better way rather than experiencing disorder.So similar to Hegel, St. Simon viewed the historical development of society on the basis of the development of rationality. So, the rationality which was seen as the cause of disorder in society by the Conservatives came to be seen as the means which would resurrect unity in society.



2.6 LET US SUM UP

- The origin of the scientific method to explain the physical or social world dates back to 16th and 17th century Europe.
- During 18th century a number of social thinkers and philosophers were influenced by the methods employed by the physical scientists to usher in an era of Scientific Revolution in the previous century.
- The progress in the arena of natural sciences made several social thinkers believe that even the social world could be understood by employing similar method.
- Imannual Kant combined the intellectual forces which remained separated till 17th century.
- Kant advocated that both observation and reason are crucial for discovering truth.
- Accordingly, observation and reason came to be known as the twin pillars to achieve truth.
- 18th century came to be known as the period of Enlightenment.
- The enlightenment period had profound influence in the whole structure of European society.
- The age of reason questioned the traditional aspects of the society which led to the culmination of the French revolution and the industrial Revolution that led to a massive disorganization and chaos in society.
- A group of philosophers and thinkers arose who asserted that this disorganisation of society had resulted from the uncritical acceptance of the Enlightenment philosophy.
- Those thinkers who wanted the revival of order in society are known as the Romantic conservatists and the philosophy advocated by them is known as Romantic Conservatism.
- The conservative theorising influenced some thinkers such as the early classical sociologists like Auguste Comte and Emile Durkheim who had laid the foundations of Sociology, its object of inquiry as well as the method inquiry.

UNIT 3: COMMON SENSE AND SOCIAL REALITY

UNIT STRUCTURE

3.1 Learning Objectives

3.2 Introduction

3.3 Nature and Subject matter of Sociology

- 3.3.1 Views of Emile Durkheim regarding objectivity in Sociology
- 3.3.2 Views of Max Weber regarding Sociological method

3.4 Values and Value-neutrality

3.5 Meaning and definition of Common Sense

- 3.5.1 Characteristic of Commonsense knowledge

3.6 Relation between Sociology and Commonsense

- 3.6.1 Distinction between Sociology and Commonsense

3.7 Commonsense and Emile Durkheim's understanding of society

3.8 Commonsense and Max Weber's analysis of society

3.9 Commonsense and Sociology in India

3.10 Let us Sum up

3.11 Further Reading

3.12 Answers to check your progress

3.13 Possible Questions

3.1 LEARNING OBJECTIVES

After going through this unit, you will be able to-

- know about the nature and subject matter of Sociology
- know about debate concerning values and value-neutrality in social science research.
- know about the relation between Sociology and common sense

3.2 INTRODUCTION

Sociology was born in an era when physical science and Biology were looked up as the best model to define scientific knowledge. As we

Now, the subject matter of natural science is 'matter' which does not have consciousness and thereby their behaviour can be observed under controlled situation without much interruption. Accordingly this process enables the researcher to maintain objectivity because he or she *explains* the phenomenon without any kind of values attached to it. Unlike the subject matter of natural sciences, the subject matter of Social science and Sociology in particular is conscious individuals with a sense of what is happening around them. According to Anthony Giddens 'the subjects of study in social sciences and the humanities are concept-using beings, whose concepts of their action enter in a constitutive manner into what those actions are...'(Giddens,1987). Thus, to understand the concepts/ meanings held by the individuals becomes pertinent and thereby only the observable and external facts cannot define social reality. However even though the subject-matter of sociology is the conscious human being but still studies can be conducted objectively. We know that scientific study is required to be objective, yet objectivity in a particular science lies in the method adopted by it. Again, there can be different 'method' to attain scientific knowledge based on the object of inquiry. In other words there cannot be only 'one' scientific method. Further, various analytical concepts and theories developed within the discipline of Sociology help to check the biases

3.3.1 Views of Emile Durkheim regarding objectivity in Sociology

Emile Durkheim carried the romantic conservative tradition and declared that society as a reality is *sui generis* and therefore society is more pervasive than an individual. According to Emile Durkhiem the subject matter of Sociology is social fact which is external to the individuals and is endowed with a coercive force. Social facts are also general in the sense that they are found everywhere. He advocated that treating social facts as things will enable sociologists to undertake an objective and, thereby, a scientific study of the social world. According to Durkheim, it is the

into a unified analytical construct'. In other words ideal type is an imagination regarding what 'could be' rather than what 'should be' and thereby making a study objectively possible.

3.4 VALUES AND VALUE NEUTRALITY

A scientific research is required to be value-neutral. This implies that the feelings of the researcher must not distort the findings of a research. For example while researching about the properties of methane, a researcher will record only those facts which he or she has found not which he or she 'feels' about methane. It is because of this reason it is assumed that Science and particularly natural science is devoid any kind of values but the fact is that in the initial phase every science is associated with values but not during observation and analysis of the facts. One's decision to conduct a particular research and not the other is closely associated with one's preference or in other words 'values'. According to Max Weber, 'even the knowledge of the most certain proposition of our theoretical scientism – e.g., the exact natural sciences or, mathematics is like the cultivation and refinement of the conscience, a product of culture'. Similarly in Sociology particular values motivate an individual to investigate a particular phenomenon. Weber argues that the investigator much make explicit one's values before analysing the phenomenon. According to him 'it should be made explicit just where the arguments are addressed to the analytical understanding and where to sentiments'.

According to Weber as there are several scientific methods in the similar manner there are several realities and it is not possible to know every aspect of reality. Thus, by applying the method called Verstehn an investigator tries to understand the reality as experienced by a group or the individual the investigator is observing. Therefore, Weber says; 'All the analysis of the infinite reality which the finite human mind can conduct rests on the tactic assumption that only a finite portion of the reality constitutes the subject of scientific investigation, and that only it is "important" in the sense of being worth of being known"

Antonio Gramsci was interested to know how commonsensical understanding contrasted from systematic thought. According to Gramsci, commonsense is practical and experimental but it does not help in theoretical construction. He associated commonsense with masses and theoretical thought with the elites or the ruling class. He argued that only when the masses will be able device/construct theoretical thought about their soical reality, they will be able to move away from their subjugated position.

3.5.1 CHARACTERISTICS OF COMMONSENSE KNOWLEDGE

From the definitions mentioned above the characteristics of commonsense knowledge can be enumerated as follows:

- Commonsense knowledge involves the practical knowledge which helps people to carry their daily activities effectively.
- Commonsense knowledge helps people to attach meaning regarding the happenings around them.
- Commonsense knowledge has a taken-for-granted character and it is generally not questioned.
- Commonsense knowledge is associated with the masses.
- Commonsense might vary from one group to another; it may vary from urban to rural area, it also varies from primitive societies to modern society. For example, in some societies it is commonsensical that the female members carry out the agricultural activities. But for some society agriculture is always associated with the male members.
- Commonsense is imparted to the younger generation consciously or unconsciously through the socialization process.



CHECK YOUR PROGRESS

Q.1: Who introduced the Verstehn method ?

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_____

out that many educated youths are unemployed. This led sociologist to question this commonsensical understanding and they began to construct a new theory that different kinds of schooling or differential access to educational facilities led to differential job opportunity. In order to construct this theory sociologists had used a scientific method (in terms of the way they have collected the data etc) and along with that they have also taken into account the commonsensical understanding of those who failed to get the job, what were their experience during their schooling, their experience during the interview etc. Here we see that both commonsense and science were used. If any of the two aspects is absent, construction of a coherent theory is not possible. Construction of a proper theory is essential for proper understanding of a situation.

3.6.1 DISTINCTION BETWEEN SOCIOLOGY AND COMMON SENSE

Sociology is distinct from common sense. Some of the differences are enumerated below:

- Sociology has a body of concepts, methods and data for which common sense cannot be a substitute.
- Sociological knowledge aims to be general whereas common sense is particular and localised. Common sense is bound by time, place, class, community, gender and so on.
- Common sense is also reflective but it does not question its origins and presuppositions.
- Commonsense doesnot question deliberately and methodically whereas the task of Sociology is to question what seems to obvious but in a methodical way.

3.7 COMMONSENSE AND EMILE DURKHEIM'S UNDERSTANDING OF SOCIETY

The founding fathers of Sociology like Emile Durkheim, Max Weber and thinkers like Karl Marx and many others took the whole of human society

The significance of Durkheim's study on suicide lies in the fact that when he had an important idea(that society is responsible for suicides) that appeared to go against common sense, he, as a sociologist, empirically verified that idea by collecting a large body of data and analyzed those data with the help of appropriate concepts and methods. His method of analysis may also be applied to other domains of life in other parts of the world.

3.8 COMMONSENSE AND MAX WEBER'S ANALYSIS OF SOCIETY

Max Weber's methodology too has shown a new path to study social phenomena which also takes into account the commonsense understanding of a particular society. His social action theory argues that human action is directed by meanings. From this perspective, action can only be understood by appreciating world view, the image of the world held by members of society. As already mentioned in the previous section the *verstehen* method enables us to transcend the narrow boundary of our outlook at human action from scientific point of view. In other words meanings/commonsense understanding can be scientifically used to understand human society better. Religion is often considered an important component which shapes our worldview. In certain places and times, religious beliefs directed/direct human action. In his celebrated work, *The Protestant Ethic and the Spirit of Capitalism*, Weber examines the relationship between the rise of certain forms of Protestantism and the development of Western industrial capitalism. To put it differently, what people considers as good or bad shapes that society. In the Calvinist sect, earning and saving was considered to be an act that contributed towards god's glory. Thus, gradually earning and saving became a most commonsensical thing for that community. But while they were acting in accordance with what their religion expected out of them, in the same time this ideology was helping capitalism to flourish because capitalism is based on profit/savings. Thus, while Weber was trying to understand why certain groups were more prosperous, he tried to understand their beliefs, behavior pattern and the commonsense associated with that behavior pattern.

b) Who is the author of the book, 'the Rules of Sociological Method'?

_____

_____



3.10 LET US SUM UP

- A scientific study is required to be objective.
- Objectivity in a particular science lies in the method adopted by it but there is not 'one' scientific method.
- Various analytical concepts and theories developed within the discipline of Sociology help to check the biases.
- The subject matter of natural science is 'matter' which does not have consciousness and thereby their behavior can be observed under controlled situation without much interruption.
- Accordingly this process enables the researcher to maintain objectivity because he or she *explains* the phenomenon without any kind of values attached to it.
- Unlike the subject matter of natural sciences, the subject matter of Social science and Sociology in particular is the conscious individuals with a sense what is happening around them.
- Though sociologists investigate the commonsensical aspects of society, they must get rid of the illusion created by common sense.
- Durkheim, through his study of suicide, gave a brilliant demonstration of the superiority of his method over that of common sense.
- Weber's methodology too has shown a new path to study social phenomena which also takes into account the commonsense understanding of a particular society.
- Weber's social action theory argues that human action is directed by meanings.

B) Long Questions (Answer within 350-500 words)

Q1: Is sociology a science? Explain.

Q2: Discuss the relation between sociology and common sense.

*** ***** ***

different tools, techniques, and also a variety of research methods. Research method may be defined as a particular way of conducting a research. The methods of research may vary depending on the nature of the subject to be studied, the objective of the research work, etc. In this context, it is essential to understand the different research methods, their utility, etc. This unit throws light on four distinct research methods which are commonly used in Sociological research.



CHECK YOUR PROGRESS

Q.1: What is meant by the research design?

_____

_____

Q.2: Mention a few research methods which are used in Sociological research.

_____

_____

4.3 HISTORICAL METHOD

The term historical method indicates that the studies based on this method focus on the chronology of events. In this method, emphasis is laid on the study of events/ entities of the past. This is done in order to acquire a holistic understanding of a given subject by analyzing the past trends. It is generally descriptive in nature.

A particular research method is chosen on the basis of the utility of the method in terms of achieving the desired research goals. The significance of the historical method lies in the fact that it enables the researcher to comprehend the past, which further enables one to understand the current situation and also to anticipate the future trends in some cases. It also brings to light the dynamic nature of an entity/ institution, etc.

The historical research method relies on various sources, both primary and secondary. Some of the prominent sources of the historical method are oral knowledge transmitted down through generations, accounts

events in terms of their spatial and temporal location. An accurate timeline of the required data is essential because it enables one to analyze the subject in a precise manner, which shall further lead to the production of correct conclusions.

- Another limitation that a researcher may face while conducting a study based on the historical method is that of locating the required materials and data. This is so because materials are often widely scattered and dispersed over several locations.
- A significant aspect that associates with the limitations of the historical research method is that of the inability to verify, measure or replicate.



CHECK YOUR PROGRESS

Q.3: Fill up the blanks

- The historical research method is characterized by collection of data from both ….. and ….. sources.

4.4 COMPARATIVE METHOD

The comparative research method is one of the prominent methods of social research. As the name suggests, the comparative method emphasizes on the comparison of two or more entities, with the objective of developing a holistic understanding of the entities. It must be noted that while there is no particular way or method of conducting research based on the comparative method, yet it is often seen that the quantitative techniques are used more than the qualitative ones in the comparative method. Another important feature that is generally observed in case of comparative research method studies is that they generally do not engage with the analysis of grand theories. The comparative method is rather used in cases where middle range theories are subject to analysis which study parts or subsets of and entity and not the whole. The comparative method is generally applied to analyse aspects on two bases: spatial and temporal.

while conducting a study. The techniques could be historical, descriptive, interview, etc, depending on the desired motive behind the study.

The case study method is also often analyzed in terms of the survey method of research. This is because the case study research is, often, also conducted as a supplementary method of study along with the survey method. In this context, the case study method can be further comprehended well by analyzing it in terms of the survey method. The case study, as mentioned above, caters to a detailed and intensive study, unlike the survey method which has a more broad based focus. This brings one to the aspect that while the survey method emphasizes on a plethora of units with the help of a selected sample, the case study method on the other hand emphasizes on a single unit. Further, while the findings of a study based on the survey method can be generalized, on the other hand, that of the case study method cannot be generalized. Again, the studies conducted on the basis of the survey method may be used to test hypothesis about large entities, social units, etc., those based on the case study method may be able to test hypothesis about specific entities.

The case study method is characterized by some advantages and disadvantages. The advantages are:

- The case method can easily adhere to any method of data collection.
- The case study method enables are to reach out and cover a whole range of aspects of the subject studied, thereby providing a holistic view of the subject under study.
- The case study method based studies do not require any particular social environment and can be conducted anywhere.
- Since the case study method focuses on the specificities of the subject, hence it provides the researcher the opportunity to test and analyze specific and individual aspects of a theory.

The disadvantages of the case study method:

- The foremost limitation that is often discussed in terms of the case study method is that of the inability of producing generalizations. Thus, despite providing an in-depth and holistic view of the subject

First, it is imperative to identify and define the content which shall be analysed, for example, the newspapers, documents, books, etc. It must be noted that if the content that is to be analysed is too large, then a sample of the content must be selected, which shall act as the representative unit of the entire content universe.

Next, the characteristics of the content must be identified and specified. Further, on the basis of these characteristics, the content is categorised.

Here it is important to understand a few concepts, i.e., recording units and context units. Recording unit can be defined as the smallest unit of content whereby the appearance of reference is seen. The context unit can be defined as a large element of the content that may be analysed while comprehending a recording unit. To illustrate further, a single term in a whole sentence can be identified as a recording unit, whereby the whole sentence shall be the context unit. There are five prominent recording units which are often used in the content analysis research method. They are items, paragraphs, themes, characters and words. Here, the 'word' is identified as the smallest unit. Theme, in this context, can be defined as a proposition. Character, in this context, can be defined as an individual entity in a literary piece of work. The term item, here, refers to an entire document, which may be in the form of a book, a talk series, etc.

The next step in content analysis research method is that of categorization. The systematic categorization of contents clearly highlights the objective of the study. Hence the categories must be logically and systematically designed so that they are coherent with the objectives of the research. Also it must be noted that the criteria for categorizing the recording units must be specific and explicit. This is essential as it enables one to replicate the study, thereby ensuring the objectivity of it.

The final step in the content analysis research method is to arrange the collected data in a quantitative form. The quantification of the materials may be done in various ways like numbering the materials, ranking the materials, rating of the materials, etc.

- The comparative research method consists of comparison of two or more entities.



4.8 FURTHER READING

1. Bryman, Alan. (2012). *Social research methods*. USA: Oxford University Press.
2. Goode, William J. & Hatt, Paul K. (1952). *Methods in social research*. New York, USA: McGraw-Hill Book Co.

4.9 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1: Research Design refers to the process of planning a research, which includes identifying the questions and objectives of the research, selecting the research methods, the concept and scope of the study, etc.

Ans. to Q.No.2: Historical method, Comparative method.

Ans. to Q.No.3: Primary, Secondary

Ans. to Q.No.4: Advantage: Research based on this method is easy to be conducted as it does not require any special condition or environment.
Disadvantage: The case study method is very time consuming.

Ans. to Q.No.5: Under the content analysis method of research, first the content must be identified which shall be studied. This should be followed by the characterization of the selected content. Then the selected content must be divided into categories and eventually it should be arranged in a definite quantitative form.

UNIT 5: METHODS IN SOCIAL RESEARCH (II)

UNIT STRUCTURE

5.1 Learning Objectives

5.2 Introduction

5.3 Survey Method

- 5.3.1 Stages of Social Survey
- 5.3.2 Advantages of Survey Method
- 5.3.3 Limitations of Survey Method
- 5.3.4 Types of Survey Method

5.4 Experimental Method

- 5.4.1 Types of Experiments
- 5.4.2 Merits of Experimental Method
- 5.4.3 Limitations of Experimental Method

5.5 Let Us Sum Up

5.6 Further Reading

5.7 Answer To Check Your Progress

5.8 Possible Questions

5.1 LEARNING OBJECTIVES

After going through this unit, you will be able to –

- understand Social Survey as a method of Research along with its advantages, limitations and applications.
- understand Experimental Method as a method of Research along with its advantages, limitations and applications.

5.2 INTRODUCTION

Sociologists use different methods to study society and social behavior. Out of the various methods survey and experimental method are two important method. In this chapter this two methods are discussed.

categorized as geographical and cultural studies. Leplay's methods and techniques were also adopted by Charles Booth in England. By engaging the services of some young and energetic scholars like Beatrice Potter, Octavia Hill, Graham Balfour, Clara Collett, H. Llewellyn Smith and others, Booth conducted very remarkable surveys and presented a factual account of the matter. In all his works, Booth maintained objectivity and made empirical and scientific approach. Although H.C. Preston was inspired by Booth and made impressive studies of poor people, his book ''Bitter Cry of Outcast London''(1883) was more dramatic and emotional than realistic in character. A far more extensive study was made by B.S. Rowntree in the early 20th century.

Development of the survey movement in the United States may be dated back to 1890 with Jacob Ries' extensive work on the economic conditions of the slum dwellers in thickly populated towns. The year 1902 witnessed the publication of "Battle of the Slums". Thereafter "The Commission for Rented Houses" was established in New York at the behest of President Roosevelt, in in order to collect relevant data regarding the conditions of people living in rental accomodations. Lincoln Steffen's survey of economic and political condition of seven industrial town of the states in1904 gave impetus to social survey movement of that country. In 1917 Mary Richmond published her classic book "Social Diagonsis", based on her social case work. She also tried to evaluate the significance of representative character of sampling. However Pacel Kellog and his associates conducted the most scientific survey in the first decade of the 20th century. Theirs was the most well organized and systematic survey which attempted to understand the nature and effects of urbanization and modernization upon society. Between 1927 and 1931 the Regional Planning commission of New York conducted a survey of the problems and difficulties of the people in rented houses. Philip Klein and his associates organized an extensive survey of the social service in Pittsburg and also a study of related problem. Among the private individuals who conducted Social Surveys in the United States, the names of Ann W. Shyne , Otto Pollak and Donald Young deserve mention.

different types of drugs causing addiction and the quantity of drugs taken per day indicating addiction.

- **Preparation of a schedule:** The constituent factors involved in the problem and its various elements need to be analysed so as to present a constructive programme. This necessitates the formulation of a detailed and systematic list in order to gather the relevant information around as well as directly on the subject of study.
- **Constitution of a commission:** All the official surveys are undertaken after constituting a commission headed by a director and some members who determine the policy and oversee its execution. The commission for survey is empowered to collect various types of data relevant to the study. It has to access to classified material considered appropriate for the purpose of survey. If the situation warrants the commission may be divided and sub-divided into various committees and sub-committees to deal with specialized matters.
- **Setting limits:** Determination of scope is the hall -mark of any scientific study. Understanding a problem necessitates systematic investigation into a limited and properly defined subject matter. Unless the scope is determined before the beginning of a survey, no phenomenan can be studied properly. Determination of scope takes into account the political and administrative division, different economic levels, biological bases, bases of social status, geographical base etc.
- **Setting time limit:** Not only cost estimate and trained investigators but also time estimate is essential for any successful survey. Whereas some problem need immediate solution , some others may require gradual transformation, some surveys are also required to be conducted within specific time intervals. The problems which are of topical importance undergo the process of gradual change. But some problems like displacement of population, resettlement etc. need to be tackled immediately.

prior to the survey being actually undertaken, it is essential to cause preparedness and responsiveness among the informants so as to obtain accurate information by the fieldworkers. The informants must be assured that the information given by them will be kept strictly confidential.

- **Choice of Survey technique:** Determination of survey technique must be made before starting it, depending upon the scope and the nature of the survey. In case questionnaire or schedules are chosen, this must be prepared beforehand to avoid delay in surveying.
- **Conduct of Field Work:** After completion of the requirements as shown above, the field workers should get ready to go to the informants for collection of data. At this stage care must be taken to contact the informants keeping in view their convenience. The field workers should be properly trained to establish rapport with the respondents as to elicit accurate information. Supervision is also required in the field work.
- **Organization, Classification and Statistical Analysis of Data:** The Data collected by the field workers under the supervision of the supervisors are then organized, classified and statistically analysed so as to be interpreted.
- **Drawing Conclusion:** Conclusions are drawn from the findings based on analysed data. It is always necessary take the help of competent and able researchers not only to draw conclusions, but also to elucidate the conclusions.
- **Graphical Representation:** The findings of a survey may be represented graphically so as to create lasting impression because of their attractiveness as well as ready intelligibility. Graphs have the capacity to bring to light the salient features of data at a glance without straining one's brain.

5.3.2 Advantages of Survey Method

In the survey method of data collection, the researcher and the people from whom the information is being collected generally have a face to face relationship and interaction. Researcher can explore

- The researcher has to be well versed with statistical techniques, various research designs and their suitability to his research problem and other statistical method of data analysis.
- When the researcher has to conduct a survey on a large scale say for example at state or national level large number of investigators are needed. Investigators are to be trained properly and thoroughly before they are sent to the field.
- Basic integrity and objectivity is needed on the part of the researcher and his investigators
- Social surveys are useful in understanding only the present status of the problem.

5.3.4 Types of Survey Method

- Census survey and Sample survey: In census type of survey all the units of the research universe are contacted for collection of data. On the contrary in sample surveys some representative units are selected for collection of data. If the research universe is constituted by homogeneous units, sample survey is preferred because it spends less time, energy and money. But if the research universe is of heterogeneous nature, census survey is found to be more suitable.
- General and Specialized Surveys: In the general survey the entire community is studied in a general manner. On the other hand, a specialized survey attempts on unearthing some particular aspects of the community such as unemployment, child labor, problems of the slum, hygienic attitude etc.
- Direct and Indirect Survey: Quantitative description is possible in direct surveys, such as the demographic surveys. On the other hand, the indirect surveys are not amenable to quantification. For example, surveys on level of nutrition or health condition are of indirect type. However both the types of social surveys have their own importance in the study of social problems.

- Public and Confidential Surveys: The data of some surveys are of general type and no secrecy is maintained in collecting data or publishing the findings . Such surveys are therefore, called the public surveys. On the contrary in some surveys the data required are of highly personal in nature requiring confidentiality. No information is revealed to the public. Such surveys are called confidential surveys.
- Postal and Personal Surveys: If the data is collected by mailed questionnaire, it is called postal survey. On the other hand, the data collected through direct interview of the informants come under personal survey.

Notwithstanding the typology of surveys, in general terms it may be ascertained that on the basis of a social survey practical steps may be taken to mitigate or bring an end to problems confronting a society or community and also social survey has become a part and parcel of many other social sciences.



CHECK YOUR PROGRESS

Q.1: What is the etymological meaning of the word Survey?

_____

_____

Q.2: How did Earnest Engel contribute to Social Survey?

_____

_____

Q.3: Mention one limitation of Social Survey.

_____

_____

Q.4: Differentiate between Census survey and Sample survey.

_____

_____

in the degree of control that there is wide variety of opinion regarding the social experiments.

5.4.1 Types of Experiments

Social experiments may be divided into various classes according to the type of setting, nature and extent of control and the technique adopted for manipulating the variables. Greenwood has mentioned following five types of experiments.

- **Trial and Error Experiment**

  This may be called as the earliest form of experiment. Under this method the researcher does not prepare a structured plan of study. He prepares a hypothesis and tries to test it on actual social conditions, wherever, they may be found. As the study is not rigidly planned his technique will undergo a constant modification in the light of experience. For example he may start his studies on a small group but later on finding that it was unsuitable may enlarge it or change it altogether.This type of experiment may hardly be called scientific and usually entails much fruitless labor and waste of time.

- **Natural Experiment**

  It is also known as field experiment. This name has been given to this method because the experiment is conducted in the natural setting. It is different from the from the field study or field observation because in case of field experiment we try to manipulate the independent variable while in case of field study we simply observe the phenomena taking place without any kind of manipulation.

  Natural experiment has been used for studying a wide variety of techniques and methods such as advertising technique, training methods, effect of group decision and group participation, effectiveness of political propaganda and the like. As an illustration we can cite the experiment carried on by Coch and French regarding the effect of participation by the employees in

degree of control. A field experiment is studied in the natural setting with control over independent variables, but for a laboratory experiment the setting is artificially created. Thus, for example, if we make an experiment with the school boys in the school itself it would be field experiment, but if we create a small classroom and experiment upon it, it will be laboratory experiment. In a laboratory experiment the phenomenan is artificially created and is naturally subject to greater control and manipulation.

5.4.2 Merits of Experimental Method

The experimental method has following advantages over other methods of study:

- It permits the determination of cause and effect relationship more clearly than other methods. In case of other methods we can at best locate the degree of association or covariance but we cannot say with certainty as to which is the cause and which is the effect. For example, we can say that higher wages and higher output go together, but we cannot say whether higher wages have caused higher output or vice versa. Unless the cause and effect are clearly located it is not possible to control the phenomena which is the primary practical objective of any research.
- It is more precise and accurate. Since the variable under study is manipulated leaving others uncharged we can locate with precision the effect of varying degree of stimulas. For example, we can find out precisely the effect of varying degree of freedom of work upon output. This will helps us to fix up the optimum points or norms. In the above example initial increase in the degree of freedom may lead to rise in the output but after a certain limit it may result in the reduction. A complete freedom of work may result in the fall in production rather than a rise in it. By knowing the effect of the varying degree of freedom we

there must first of all be a strike. Even when we have located a place it is not always possible that the owners of the setting may allow the experiment to be conducted upon it.

- **Difficulties of Co-operation:** A physical scientist has to deal inanimate things which do not grudge any manipulation upon them. One can pick up a piece of iron and heat it as one like to observe the effect of heat upon iron. Human beings who form the subject -matter of social experiment are not so easy to be manipulated. They work according to their free will and their willing co-operation with the experiment is necessary.
- **Difficulty of Control:** For successful experiment it is necessary that all other causative factors except the one under study must be strictly unchanged and the particular variable may be variated gradually. This is extremely difficult. The difficulty is mainly created by complexity of social phenomena, its dynamic nature and independence of human behavior.But whatever may be the difficulty in experimental method, that this method is an important method of Social Research it can't be denied.

  In the words of Lewin, " Although it appears to be possible to study certain problems of society in experimentally created smaller laboratory groups, we shall have also to develop research technique that will permit us to do real experiments in existing 'Natural' social groups."



CHECK YOUR PROGRESS

Q.6: Define social experiment.

_____

_____

Q.7: How many types of experiments are there?

_____

_____



5.6 FURTHER READING

1. Campbell, D.T., & Stanley, J.C. 1963. Experimental and quasi-experimental designs for research. Chicago, IL: Rand McNally.
2. Kirk, R. E. 1995. Experimental design: Procedures for the behavioral sciences. Pacific Grove, CA: Brooks/Cole.
3. Moser, C.A. 1958. Survey Methods in Social Investigation. New York: The MacMillan.
4. Young, P.V. 1949. Scientific Social Surveys and Research, New York:

5.7 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1: The ethymological meaning of the word survey is to see a particular thing from a high place.

Ans. to Q.No.2: Earnest Engel contributed to social survey by formulating an original theory based on the study of family budgets.

Ans. to Q.No.3: Social Survey is generally costly and time consuming because data has to be collected from a large number of people.

Ans. to Q.No.4: In Census type of survey all the units of the research universe are contacted for collection of data but in sample survey some representative units are selected for collection of data.

Ans. to Q.No.5: By primary survey is meant those surveys which are undertaken afresh and field workers collect data directly from the field. On the other hand by secondary survey is meant those surveys where the surveyor only examines the facts which are already available.

UNIT 6: INDUCTIVE AND DEDUCTIVE METHOD

UNIT STRUCTURE

6.1 Learning Objectives

6.2 Inductive and Deductive Method

- 6.2.1 Background of Inductive and Deductive Method
- 6.2.2 Difference Between Inductive and Deductive Method

6.3 Hypothesis

- 6.3.1 Significance of Hypothesis
- 6.3.2 Kinds of Hypothesis

6.4 Let Us Sum Up

6.5 Further Reading

6.6 Answer To Check Your Progress

6.7 Possible Questions

6.1 LEARNING OBJECTIVES:

After going through this unit, you will be able to–

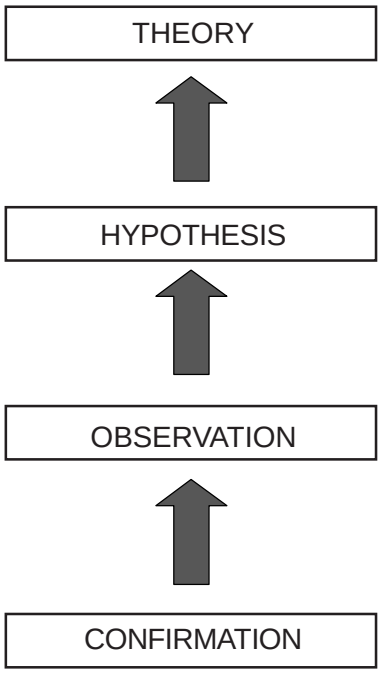
- know about Inductive and Deductive method.
- understand the differences between Inductive and Deductive method.
- know about hypothesis.
- understand the importance of hypothesis.
- know about the types of hypothesis in detail.

6.2 INDUCTIVE AND DEDUCTIVE METHOD

Induction begins from those observations from which empirical generalizations are made. These generalizations then form the basis for 'theory-building'. The so called analytic induction is common in qualitative studies within Sociology. This method requires that every case examined in a piece of research substantiates a hypothesis

Inductive method starts with the observations and theories which are proposed towards the end of the research process as a result of

Deduction begins from particular to the general. A deductive approach is concerned with developing a hypothesis based on existing theory and then designing a research strategy to test the hypothesis via prediction and observations. The core of this approach is that as observations do not provide a reliable foundation for scientific theories, the inductive logic is seen as weak, flawed, defective. This method, therefore, maintains that rather than accumulating data as in inductive method, data be used to test the tentative answers, i.e., to see if the data match the hypothesis i.e., to match the theory with data. This approach to test theory is often referred to as the hypothetico-deductive method, and since it emphasizes hypotheses, prediction and testing, is sometimes held to be the method par excellence of science. The deductive method is illustrated in the diagram below:



This method seeks to explain a particular type of action or process and often there are theories that have been developed already with the purpose of striving to do just that. We may find it more useful to see if the theory can interpret the action or process that we are interested in. Generally in this way we follow deductive approach to our research in which theory defines what we actually look at and how we look at it.These two methods (inductive

process of making generalizations from observations. Bacon's method begins with description of the requirements for making the careful, systematic observations necessary to produce quality facts. He then proceeds to use induction, the ability to generalize from a set of facts to one or more axioms. However, he stresses the necessity of not generalizing beyond what the facts truly demonstrate.

The name of Aristotle is associated with the deductive method. Deduction in logic, a rigorous proof, or derivation of one statement (the conclusion) from one or more statements (the premises)- i.e., a chain of statements, each of which either a premise or a consequence of a statement occurring earlier in the proof. This usage is the generalization of what the Greek philosopher Aristotle called the syllogism, but a syllogism is now recognized as merely a special case of a deduction. Also, the traditional view that the deduction proceeds "the general to the specific" or "from the universal to the particular" has been abandoned as incorrect by most logicians.



CHECK YOUR PROGRESS

Q.4: In which book did Francis Bacon deal with inductive method?

_____

_____

Q.5; Whose name is associated with Deductive Method?

_____

_____

6.2.2 Differences between Inductive and Deductive Method

- The deductive approach is aimed at testing an existing theory, an inductive approach is concerned with the generation of new theory from the data that is accumulated.

answers to. Hence an adequate statement about the research problem is very important. Hypothesis is a statement in a research, which the study might prove or disapprove. A hypothesis helps a researcher in processing further and finding solution of the problem. Without hypothesis, there can be no effective going ahead. A hypothesis provides a tentative solution to the question of how and why.

Meaning of Hypothesis:

The word hypothesis means a tentative statement about the solution of the problem. Hypothesis offers a solution to the problem that is to be verified empirically based on some rationale.

'Hypo' means composition of two or more variables which is to be verified.

'Thesis' means position of these variable in specific frame of reference.

This is the operational meaning of the term hypothesis. Hypothesis is the comparison of some variables which have some specific position or role of the variables i.e. to be verified empirically.

A tentative generalization or theory formulated about the character of phenomena under observation are called hypothesis. It is a statement temporarily accepted as true in the light of what is known at the time about the phenomena.

According to Theodorson and Theodorson (1969:191), "a hypothesis is a tentative statement asserting a relationship between certain facts".

Webster (1968) has defined hypothesis as "a tentative assumption made in order to draw out and test its logical or empirical consequences".

In other words, a hypothesis carries clear implications for testing the stated relationship, i.e., it contains variable that are measurable and specifying how they are related. A statement that lacks variables or that does not explain how the variables are related to each other is no hypothesis in scientific sense.

Following are a few examples of hypothesis:

- Group study increases higher division achievement.
- Suicide rate varies inversely with social integration

to presence of an evil spirit , it can never be verified and hence not an admissible hypothesis in science.

- **The Hypothesis must be specific**: A specific hypothesis more than a hypothesis stated in very general terms , stands for a better chance of being accepted or rejected through empirical study.' The changing status of women is responsible for the disintegration of joint family ' or westernization has led to the break-down of caste system of India' are hypothesis of such a broad nature that they simply are not testable. 'The changing status' and 'Westernization' are very complex concepts that can be used profitably for testing purposes directly. That is, instead of trying to test a single hypotheses, we create conditions to test a number of sub-hypothesis simultaneously and infer from them if the more general hypothesis stands. The other alternative is to prepare indexes to verify the implications of the hypotheses. When a broad hypothesis is used it is easy to select some evidence which would proceed to prove the hypothesis. A trap like this is always to be avoided. Intelligence, development, social progress etc are such broad concepts that one can find their correlates in every aspect of our social existence- the average distance one covers every day , the number of buses or trams playing on roads, average protein intake, consumption of powder and what not. One can conveniently choose one or more of such criteria to claim the validity of one's hypothesis.
- **A hypothesis must be consistent with the Known Laws of Nature**: ' Hot air goes up because it has a tendency to go up' will be regarded as a very poor explanation because the 'tendency to go up' cannot be explained by the law of gravitation. 'A hypothesis must be consistent with the known laws of nature' does not mean that the hypothesis cannot be framed against what is believed to be true. The' established laws of nature' may be wrong.
- **A Hypothesis must be adequate to explain all the facts under investigation**: This condition states that the hypothesis must not only explain a part but all the aspects of the phenomena under investigation. That is, it leaves no part unexplained. This is a criteria which cannot be

compass to a sailor with the help of which he/she is able to head in the proper direction.

Thirdly, the hypothesis enables us to select relevant and pertinent facts and makes our tasks easier. Once the direction and points are identified the researcher is in a position to eliminate the irrelevant facts. Highlighting the role of hypothesis in providing pertinent facts, P.V.Young has stated, " The use of hypothesis prevents a blind research and indiscriminate gathering of masses of data which may later prove irrelevant to the problem under study". For example, if the researcher is interested in examining the relationship between broken home and juvenile delinquency he can easily proceed in the proper direction and collect pertinent information only when he/she has formulated a useful hypothesis.

Fourthly, hypothesis provides guidance by way of providing the direction, pointing to enquiry, enabling to select pertinent facts and helping to draw specific conclusions. It saves the researcher from the botheration of trial and error which causes loss of money, energy and time.

Finally, hypothesis plays a significant role in facilitating advancement of knowledge. In real terms the science is incomplete without hypothesis. In other words hypothesis helps a researcher to see and appreciate-

- the kind of data that must be collected in order to answer the research question.
- The way in which they should be organized most efficiently.



CHECK YOUR PROGRESS

Q.8: Write the meaning the word Hypothesis.

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_____

Q.9: Define hypothesis.

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Null hypothesis: It is reverse of research hypothesis. In the null form, the researcher makes a statement that no significant difference exists between the variables concerned. If we are to compare method A with method B about its superiority and if we proceed on the assumption that both methods are equally good then this assumption is termed as the null hypothesis. For example: " There is no significant difference between the academic achievement of high school athletes and that of non athletes". It is an example of null hypothesis.

Alternative Hypothesis: This is the hypothesis or claim, which initially seems to be false but which we may decide to accept if there is sufficient evidence. If we are comparing method A with method B about its superiority and if we proceed on the assumption that method A is superior or B is inferior we are then stating what is termed as alternative hypothesis.



CHECK YOUR PROGRESS

Q.12: What is the use of a working hypothesis?

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_____

Q.13: What is scientific hypothesis?

_____

_____

Q.14: What is the basic difference between a research hypothesis and null hypothesis?

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6.6 ANSWERS TO CHECK YOUR PROGRESS

Ans. to Q.No.1: Induction begins from particular observations from which empirical generalizations are made.

Ans. to Q.No.2: Inductive research "involves the search for pattern from observation and the development of explanation theories- for those patterns through series of hypothesis.

Ans. to Q.No.3: A deductive approach is concerned with developing a hypothesis based on existing theory and then designing a research strategy to test the hypothesis via prediction and observations.

Ans. to Q.No.4: Francis Bacon the famous philosopher dealt with the inductive method in his book Novum Organum(1620) or "New Method

Ans. to Q.No.5: The name of Aristotle is associated with deductive method.

Ans. to Q.No.6: A Deductive approach generally begins with a hypothesis.

Ans. to Q.No.7: Qualitative research is concerned with inductive approach.

Ans. to Q.No.8: The word hypothesis is made up of two greek roots which mean that it is some sort of 'sub-statement'.

Ans. to Q.No.9: In the words of Webster hypothesis is "a tentative assumption made in order to draw out and test its logical or empiricalconsequences."

Ans. to Q.No.10: A hypothesis must be conceptually clear, definite and verifiable.

Ans. to Q.No.11: Yes hypothesis is a link between a theory and a investigation.

Ans. to Q.No.12: Working hypothesis are used to design the final research plan, to place the research problem in its right context and to reduce the research topic to an acceptable size.

Ans. to Q.No.13: Scientific hypothesis is that hypothesis which contains statement based on or derived from sufficient theoretical and empirical data.

UNIT 7: RESEARCH DESIGN

UNIT STRUCTURE

7.1 Learning Objectives

7.2 Introduction

7.2.1 Characteristics of Research Design

7.3 Components of Research Design

7.4 Concepts of Research Design

7.5 Types of Research Design

7.5.1 Exploratory of Formulative Design

7.5.2 Descriptive Research Design

7.5.3 Digonastic Research Design

7.5.4 Experimental Research Design

7.5.4.1 Types of Experimental Design

7.6 Let Us Sum Up

7.7 Further Reading

7.8 Answer To Check Your Progress

7.9 Possible Questions

7.1 LEARNING OBJECTIVES

After going through this unit you, will be able to

- know about the meaning of research design and its importance in social research.
- understand the different components and concepts associated with research design.
- understand in detail the different types of research designs and their application.

7.2 INTRODUCTION

The term 'design' means "drawing an outline" or planning or arranging details. It is a process of making decisions before the situation arises in which the decision has to be carried out. 'Research Design' is planning a

design should permit the use of measuring instruments which are fairly objective at which every observer or judge seeing a performance arrives precisely. This ensures the objectivity of the collected data to be used for the analysis and findings.

- Reliability: The test retest approach is the most effective measure of reliability as it refers to 'consistency' throught out a series of measurements. Suppose if a respondent gives a response to a question he/she is expected to give the same response to that question whenever he is asked in other form. But if the respondent keeps on changing his/her responses to the same type of questions then the interviewer will be facing a difficulty in considering which of the responses is genuine. The researcher should frame this question in such a way that the respondent cannot but give only one genuine response. Though there are some methods in determining the reliability of the responses given by a respondent like.
- Validity: As in case of reliability, there are a good number of procedures for establishing the validity of test, such as validating the present data against a concurrent criterion or a future criterion or a theory etc. However, any measuring instrument is said to be valid when it measures what it proposes to measure.
- Generalisation: The next important aspect of a good research design is to ensure that the measuring instruments used in a research investigation yield objective, reliable and valid data for 'generalisation' of the findings. It will thus help an investigator in his attempt to generalize the findings, provided he has taken care in defining the population , selecting the sample and using the appropriate statistical analysis while planning his/her research design.



CHECK YOUR PROGRESS

Q.1: What is research design?

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- Data Collection, '…depends upon the subject matter the unit of enquiry and the scope of the study.'
- Analysis of Data, '…to fulfil the objective or hypothesis the researcher should analyse the data and subject to the appropriate statistical analysis beside tabulation. Tabulation of results in a meaningful way is by itself a technique and an art. The data given in the tables must be in self-explanatory form
- Interpretation of Results-'…researcher should draw inference based on usual test for significance and relate with previous findings, for a wider field of generalization.
- Reporting and Findings: Reporting should be clear, specific, simple and related relating to the objective of the study. Researcher must report what has been discovered to ensure proper directions to other researchers in carrying out of similar researches.'



CHECK YOUR PROGRESS

Q.3: How should be the title of a research be designed?

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_____

Q.4: What should be the Reporting and Findings of a research design like?

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_____

7.4 CONCEPTS OF RESEARCH DESIGN

Before describing the different research design, it will be appropriate to explain the various concepts relating to designs so that these may be easily understood.

- *Dependent and independent variables*: A concept which can take on different quantitative values is called a variable. As such, the concepts like weight, height, income are all examples of variables. Qualitative

research hypothesis. The research hypothesis is a predictive statement that relates an independent variable to a dependent variable. Usually, a research hypothesis must contain at least one independent and one dependent variable

- *Experimental and non-experimental hypothesis-testing research*: When the purpose of research is to test a research hypothesis, it is termed as hypothesis-testing research. It can be of the experimental design or of the non-experimental design. Research in which the independent variable is manipulated is termed as'experimental hypothesis-testing research'and a research in which an independent variable is not manipulated is called'non-experimental hypothesis-testing research'.
- *Experimental and control groups*: In an experimental hypothesis-testing research when a group is exposed to usual conditions, it is termed as á control group', but when the group is exposed to some novel or special condition it is termed as an experimental group.
- *Treatments*: The different conditions under which experimental and control groups are put are usually called treatments.
- *Experiments*: The process of examining the truth of a statistical hypothesis relating to some research problem is known as experiment.
- *Experimental unit(s)*: The pre-determined plots or the blocks where different treatments are used are known as experimental units. Such experimental units must be selected(defined) very carefully.



CHECK YOUR PROGRESS

Q.5: What do you mean by independent variable?

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_____

Q.6: What is research hypothesis?

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in the investigator the thinking required for the formulation of the hypotheses. In this regard the attitude of the investigator, intensity of the case study and integrative power of investigators appear to be very important.

7.5.2 Descriptive Research Design

The purpose of descriptive research design is to describe some event, situation, people, group or community or some phenomenon. Fundamentally it is a fact finding exercise which focuses on relatively far dimensions of a well defined entity, aiming at precise and systematic measurement of some dimensions of a phenomenon. Usually a descriptive design involves detailed numerical descriptions, such as distribution of a population of a community by age, sex, caste or education. The researcher may also take recourse to descriptive design for estimating the proportion of people in a particular geographical locality with respect to their specific view or attitudes.

However the procedure followed in descriptive design is broadly analogous, notwithstanding the differences evinced in their field, formulation of hypothesis, objectives, for treatment of the problem and in matters of field expansion.

7.5.3 Diagonistic Research Design:

The diagonistic research design endeavours to find out the relationship between express causes and also suggests ways and means for the solution. Thus the diagonistic studies are concerned with discovering and testing whether certain variables are associated. Such studies may also aim at determining the frequency with which something occurs or the ways in which a phenomena is associated with some other factors.

Diagonistic studies are mostly motivated by hypothesis. A primary description of a problem serves the basis so as to relate the hypotheses with the source of the problem. Here only those

In order to surmount problem of the financial constraints and paucity of time, a representative sample of the research universe should be drawn so as to gather relevant information. A wide range of sampling techniques are prevalent which must be made use of appropriately by the researchers.

At the stage of analysis of data, the researcher must take proper care in placing each item in the appropriate category, tabulating of data, applying statistical computation and so on.

7.5.4 Experimental Design

The concept of experimental design in sociological research refers to systematic study of human relations by making the observations under conditions of control. In the words of Jahoda and Cook, ' an experiment may be considered as a way of organizing the collection of evidence so as to permit one to make inference about the tenability of a hypothesis. According to Chapin, "experiment is simply observation under controlled conditions. When observation alone fails to disclose the factors that operate in a given problem, it is necessary for the scientist to resort to experiment."

In real terms, experimentation is resorted to when it is not possible to solve the problem through observation and general knowledge. The core of the experimental method lies in drawing inferences by observation of human relations under controlled conditions. Since a number of factors are in operation in every complex social situation, the social scientist , while seeking to describe the single causal relation of suppose factor A to factor B, must attempt to create an artificial situation wherein all other factors such as C, D, E etc., are controlled. Such a state is achieved by selecting two groups which are equal in all significant receipts and by choosing either of the groups as 'experimental group and the other as the 'control group' and thereafter exposing the 'experimental group' to the assumed causal variable, while keeping the 'control' group under control. After a specific time period, the two groups are

measured value of the dependent variable before exposure to the subject of the experimental variable is noted as 'A' and its measured value after the exposure of the subject to experimental variable is noted as 'B' then the effect of the experimental variable is taken to be (B-A).

c. **Before-after with control group design**: In this design the research has a control group against which the results of the experimental group are compared. The control group and experimental groups are selected in such a way that both the groups are similar and interchangeable. The control group is measured before as well as after being exposed to the experimental variable. Hence there may hardly be any difference between before and after measurements. But if there is any difference between before and after measurements, it represents the result of uncontrolled variables.

On the other hand the experimental variable is introduced in the experimental group. The difference between before and after measurements in respect of the experimental group is construed as the result of experimental variable as well as the uncontrolled variables. To know the exact effect of the experimental variable, the researcher deducts the difference of the two measurements of the experimental group.

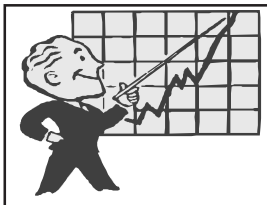
The following notation explains this

	Control Group	Experiment Group
Whether before-measurement is taken ?	Yes (A)	Yes (C)
Whether experimental variable is introduced ?	No	Yes
Whether after-measurement is taken ?	Yes (B)	Yes (D)
Effect of experimental variable	(D-C)-(B-A)	

	Experiment Group	Control Group
Whether before-measurement is taken ?	No	No
Whether experimental variable is introduced ?	No	Yes
Whether after-measurement is taken ?	Yes (A)	Yes (B)
Effect of experimental variable	(A-B)	

(f) **Ex-post facto design:** In Ex-post facto design the experimental and control groups are selected after the introduction of the experimental variable. Thus, it can be called a variation of the after-only design. The main advantage of this design is that the subjects are not influenced towards the subject by their knowledge of being tested. It also enables the researcher to introduce the experimental variable according to his/her own will and to control his/her observation.

(g) **Factorial Design:** All categories of experimental designs discussed above are designed to test experimental variables at one level only. But on the other hand the factorial designs enable the experimenter to test two or more variables simultaneously.



CHECK YOUR PROGRESS

Q.7: What is the main purpose of an exploratory or formulative design?

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Q.8: What is descriptive research design?

_____

_____

Q.9: With what is the Diagnostic research design concerned?

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7.7 FURTHER READING

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7.8 ANSWER TO CHECK YOUR PROGRESS

Ans. to Q.No.1: A Research Design is a plan of action. It is a plan for collecting and analyzing data in an efficient and relevant manner.

Ans. to Q.No.2: Reliability and Generalisation are any two characteristics of a research design.

Ans. to Q.No.3: The title of a study should be brief, precise and project the scope in generalized terms.

Ans. to Q.No.4: The reporting and finding of a study should be clear, specific, simple and directly relating to the objective of the study.

Ans. to Q.No.5: When a variable depends upon or is a consequence of the other variable it is termed as an independent variable.

Ans. to Q.No.6: When a prediction or a hypothesized relationship is to be tested by scientific methods, it is termed as research hypothesis.

Ans. to Q.No.7: The main purpose of exploratory or formulative design is to gather information which will help in future for formulation of a precise research problem.

Ans. to Q.No.8: A Descriptive Research Design is such a design which describes events, situation, people, group or community or some phenomena.

Ans. to Q.No.9: The Diagonistic Research design is concerned with the express characteristic and existing social problems.



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