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9. Introduction Social Science Research

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9.1 Introduction:

The unique characteristic of human mind is the curiosity to know about the universe. Innumerable questions arise in our mind about our environment, planet and the universe. Most of these questions starting with what, why, how and soon. For example, what are stars?, why day and night alternate? How is rain formed and why the mode of life and activities of human beings vary from place to place? Whenever such questions arise we seek answer to them or we try to find out solutions to them. Seeking answers to questions and finding solutions to the problems have been the basis of human progress. A systematic search for an answer to a question or a solution to a problem is called research.

Actually, research is simply the process of arriving as dependable solution to a problem through the planned and systematic collection, analysis and interpretation of a data. Research is the most important process for advancing knowledge for promoting progress and to enable man to relate more effectively to his environment to accomplish his purpose and to solve his conflicts. Although it is not the only way, it is one of the most effective ways of solving problems.

The term research consists of two words, 'Re'+'Search'. "Re" means again and again and "Search" means to find out something. The following is the process; arbitrary method of seeking answer to questions is based on imagination, blind belief or impression. It is vague and inaccurate. Scientific method is a systematic rational approach to seeking fact.

It is objective, precise and arrives at conclusions on the basis of verifiable evidence.

Hence research is systematic and logical study of an issue problem or phenomenon through scientific method. Following definitions may reveal the proper meaning of the concept of research.

'Research' sounds as if it is something very specialised and difficult to do, far beyond the skills of ordinary people. Scientists and academics do research. Nobel Prize winners do research. You might be surprised to learn that we all do research as part of our everyday activities. We all know how to do research, and you have probably been doing research in one way or another for many years.

'Natural inquiry'- In everyday life, research is simply the process of looking for answers to questions. This kind of research is sometimes called 'natural inquiry'.

a. We experiment with new and different ways of doing things - for example, trying out a new recipe.
b. We collect information about topics in which we are interested; for example, looking in the library for material for an assignment.
c. We test theories and hypotheses - we check to see whether or not the evidence supports our ideas and beliefs. We make guesses about things and then check to see if our guesses are correct.
d. We look for explanations and causes for things we see happening around us.

9.2 The Foundations of Social Research:

The kind of research we do in community services is usually called 'social research'. Social research investigates social phenomena, which include social interactions, social structures, social institutions and how society functions. Social research investigates how human beings interact with each other and how society itself operates.

This is an area of inquiry which has been around for thousands of years in various forms. The traditions of social research we have inherited have their roots in philosophy. The word 'philosophy' is based on a Greek word meaning 'love of knowledge or wisdom'. (The Concise Oxford Dictionary, 1969 p 912).

Philosophy studies the most general and abstract features of the world and the categories within which we think about the world. In philosophy, the concepts that we use to approach the world are themselves the subject of philosophical inquiry. Philosophy asks the 'big' questions about 'the meaning of truth, life, morality and beauty'.

Social research as we know it today originated in France in the 19th century with the work of the 'father of sociology', Auguste Comte, (Holmes, Hughes & Julian 2007 p 7) but various forms of social research seeking knowledge about people and their social lives has been going on for thousands of years.

There are many other cultural approaches to exploring and examining social phenomena, but we will concentrate on Western traditions of thought. Each of the different approaches (or paradigms, or perspectives) in contemporary social research and sociology reflects a different philosophical tradition.

Ancient Greece: In Ancient Greece, philosophers asked questions about the nature of human beings and about the nature of human society. Socrates debated the structure of society. Thales (640 BC - 550 BC) used observation instead of religious beliefs to explain natural events. This was the origin of the empirical rationalist approach to science. Hippocrates (c 450 BC) used experiments to test treatments for various ailments; by 400 BC controlled research using observation and experimentation was beginning to displace religious and supernatural explanations for natural and social phenomena. Many of the methods developed by the Ancient Greek philosophers are still used today. (Sarantakos, 1993, p 2)

The 'Age of Reason': During the 17th and 18th centuries, the 'scientific revolution' throughout Europe increased interest in understanding nature and in seeking patterns and universal 'laws' in the natural world. The same methods of inquiry were applied to seeking similar patterns and regularities in social and economic structures. (Sarantakos, 1993, p 3)

The 'scientific age' - The nineteenth century: By the 19th century social research was used to study social 'problems' such as poverty. The rapid development of the physical sciences, especially physics and chemistry, together with the application of new discoveries to technology, contributed to the Industrial Revolution in the late 18th and early 19th centuries. Social values, attitudes and beliefs changed dramatically, and along with the sweeping social changes which accompanied the Industrial Revolution, a strong belief in the power of science and technology to solve social problems developed.

9.3 Positivism:

This is the school of thought which holds that the highest or only form of knowledge is the description of sensory phenomena. In 1848 Comte introduced his 'positive method' which dominated social research for more than a hundred years. Comte was optimistic about the benefits that science could bring to society and to human affairs. He believed that researchers should seek explanations for social problems in the way society was structured, rather than in theological principles. Previously, social problems such as poverty were believed to be divinely ordained.

The Twentieth Century:

Positivism flourished in Europe and in the USA, where social research became established within the universities from the early 20th century. Until the 1960s, positivist approaches dominated social research. Typical positivist social research used survey methods and experiments directed towards quantifying (measuring) phenomena, using statistics. More recently, other schools of thought which criticize positivism have developed, including.

a. Symbolic interactionism
b. Phenomenology
c. Philosophical hermeneutics
d. Ethnomethodologies
e. Marxism
f. Feminist approaches
g. Action research
h. Interpretive approaches

i. Social constructionism
j. Post modernism (sarantakos, 1993 pp4-6)

The positivist perception of reality, its goals, methods, moral prescriptions and its way of seeing the world have all been criticized. Positivism's rejection of subjective experience and the meanings that we attach to events, experiences and social interactions as proper objects of study is particularly at odds with more recent perspectives in sociology and social research.

9.4 Scientific Method:

All scientists use common methods for their enquiry. All sciences whether natural or social agree up on methods of studying phenomena. But their materials differ. A biologist studying the structure of some flowers, a chemist studying radioactive properties of an element and a sociologist studying crime situation in an urban slum. All follows similar scientific methods of inquiry. But their subjects of study are different. Therefore, they use different techniques of investigation for their study. As their materials are different, their purposes also differ. All of them will observe the phenomenon and analyze them to find out their sequences this is called scientific method. Thus, scientific method is a systematic step-by-step procedure (three steps-observation, hypothesis and verification) following logical process of reasoning.

According to Prof. Morgan "scientific method being highly elastic, can be applicable to all domain of human activity where the discovery of truth is the objective". So the scientific method is means for gaining knowledge of the universe. As Karl Person observed "there is no short-cut to truth, no way to gain a knowledge of the universe expect through the gate way of scientific method". Two elements of scientific method are,

a. **Procedural Components:** Observation, hypothesis and verification are the three procedural components. Observation helps to collect data and help to build hypothesis. The second step is formation of one or more hypotheses. A hypothesis is tentative conclusion. It guides collection of data. The third stage is verification of hypothesis. It is done by analytical tools.
b. **Personal Components:** The researcher needs imagination, analytical ability resourcefulness, skill, capacity to find out the hearts of the problem. Researcher's ability and attitude are more important than the method of approach. Ambitions interest and perseverance are very much required to go on successfully with research. Researcher should have an objective scientific and professional qualification and personal quality and interest.

9.4.1 Meaning and Essentials of Scientific Method:

Scientific method is a way in which one can test opinion, impressions or guess by examining available evidences for and against them. So, it is controlling lot of things and establishing stable belief.

Essentials of scientific method are,

- Scientific method aims at discovering facts.
- It is itself corrective in nature.

- It is itself based on systematic doubts.
- Scientific theories are abstract in nature.

Basis of Scientific Method:

Following are the major basis of scientific method,

a. **Reliance on Empirical Evidence:** Scientific method involves a systematic process. The answer to a question is not decided by intuition or imagination. Relevant data are collected through observation and experimentation. The validity and the reliability of data are checked carefully, and the data are analyzed thoroughly using appropriate methods of analyses.
b. **Use of Concepts:** We use concepts to deal with real facts. Concepts are logical constructs or abstractions created from sense impressions. They are the symbols representing the meaning that we hold.
c. **Commitment to Objectivity:** Objectivity is the hallmark of the scientific method. It means forming a judgment upon facts unbiased by personal impressions. The conclusion should not vary from person to person. It should be same for all persons.
d. **Ethical Neutrality:** Science does not pass normative judgment on facts. It does not say they are good or bad. Science aims nothing but making true and adequate statements about its object.
e. **Generalization:** Scientist tries to find out the commonality of a series of event. They aim at discovering the uniformity. Assumed a discovered uniformity a logical class and it's observed pattern, a descriptive generalization is formulated.
f. **Verifiability:** The findings of a research should be verifiable. Scientist must make know to others, how he arrived at his conclusion. He should thus expose his own methods and conclusions to critical scrutiny. When others test his conclusion under the same conditions, then it is accepted as correct.
g. **Logical Reasoning Process:** The scientist method involves the logical process of reasoning. This reasoning process is used for drawing inference from the finding of a study or for arriving at conclusion. This logical reasoning process consists of induction and deduction.
h. **Induction:** One of the methods of logical reasoning process. The inductive method consists of studying several individual cases drawing a generalization. It involves two processes-observation and generalization. Conclusion from induction method is subjected to further conformation based on more evidence.
i. **Deduction:** Deduction is reasoning from the general to the particular. This reasoning establishes a logical relationship between a minor premise and a conclusion. A major premise is a previously established generalization or assumption. A minor premise is a particular case related to the major premise. The logical relationship of these premise lead to conclusion.

E.g., major premise: - All men are mortal Minor premise: - A is a man Conclusion: - A is mortal.

The logical process of both induction and deduction are useful in research studies. Both are inseparable parts of a system of reasoning. Both processes are often used simultaneously.

9.5 Difficulties in the Use of Scientific Methods in Social Science Research:

Some theorists argue that scientific method is more applicable to physical or natural sciences: and it cannot applicable to social sciences. The following are the major difficulties.

a. Human behavior is different. It's very difficult to categories.
b. When human behavior is studied and analyses by another human, there may be personal problems.
c. Psychological nature of human behavior cannot be measurable.
d. Human behavior is not uniformed and predictable. Uncertainty is existing.
e. Difference in choice and decision.

Meaning and Definition:

Research is an essential and powerful tool in leading man towards progress. Without systematic research there would have been very little progress. John W. Best has rightly said, "The secret of our cultural development has been research, pushing back the areas of ignorance by discovering new truths, which, in turn, lead to better ways of doing things and better products. "Scientific research leads to progress in some field of life. New products, new facts, new concepts and new ways of doing things are being found due to ever-increasing significant research in the physical, the biological, the social and the psychological fields. Research today is no longer confined to the science laboratory.

Meaning of Research:

Word 'Research' means a systematic investigation or activity to gain new knowledge of the already existing facts. Research is a scientific inquiry aimed at learning new facts, testing ideas, etc. It is the systematic collection, analysis and interpretation of data to generate new knowledge and answer a certain question or solve a problem.

Research is an intellectual activity. It is responsible for bringing to light new knowledge. It is also responsible for correcting the present mistakes, removing existing misconceptions and adding new learning to the existing fund of knowledge. Researches are considered as a combination of those activities which are removed from day to day life and are pursued by those persons who are gifted in intellect and sincere in pursuit of knowledge.

But it is not correct to say that the research is restricted to such type of persons, however, it is correct to say that major contribution of research comes from highly gifted and committed workers. Thus, the research is not at all mysterious and is carried on by hundreds of thousands of average individuals. Research is also considered as the application of scientific method in solving the problems. It is a systematic, formal and intensive process of carrying on the scientific method of analysis. There are many ways of obtaining knowledge. They are intuition, revelation, and authority, logical manipulation of basic assumptions, informed guesses, observation, and reasoning by analogy. One of the branches of research known as empirical research is highly goal-oriented technique.

Society is an organized group of persons associated together with shared objective, norms and values pertain to the society. People have social life and social process.

Research is systematic and organized effort to investigate a specific problem that needs a solution. It contributes to the general body of knowledge. It also corrects human knowledge. Social research now can be defined as the systematic and objective analysis and recording of controlled observations that may lead to the development of generalization, principles or theories resulting in prediction and possibly ultimate control of events in society. It attempts to answer or solve social problems.

Definitions of Research: The following are the important definitions of research:

"Research is an endeavor / attempt to discover, develop and verify knowledge. It is an intellectual process that has developed over hundreds of years ever changing in purpose and form and always researching to truth."

J. Francis Rummel

"Research is an honest, exhaustive, intelligent searching for facts and their meanings or implications with reference to a given problem. The product or findings of a given piece of research should be an authentic, verifiable contribution to knowledge in the field studied."

P. M. Cook

"Research may be defined as a method of studying problems whose solutions are to be derived partly or wholly from facts."

W. S. Monroes

"Research is considered to be the more formal, systematic intensive process of carrying on the scientific method of analysis. It involves a more systematic structure of investigation, usually resulting in some sort of formal record of procedures and a report of results or conclusion." John W. Best

"Research comprises defining and redefining problems formulating hypothesis or suggested solutions, collecting, organizing and evaluating data, making deductions and reaching conclusions and at last careful testing the conclusions to determine whether they fit the formulated hypothesis." Clifford Woody

"Research is a systematic effort to gain new knowledge."

Redman & Mori

"Social research may be defined as a scientific undertaking which by means of logical and systematized techniques aims to discover new facts or verify and test old facts, analyses their sequences, interrelationships and casual explanation which were derived within an appropriate theoretical frame of reference, develop new scientific tools, concepts and theories which would facilitate reliable and valid study of human behavior."

P. V. Younge

According to C.A. Moser: “Social research is a systematized investigation to gain new knowledge about social phenomenon and problems."

According to P.V. Young: “Social research is a scientific undertaking which by means of logical methods, aim to discover new facts or old facts and to analyze their sequences, interrelationships, casual explanations and natural laws which govern them."

Characteristics of Social Research:

a. It is directed towards the solution of problems. The ultimate goal is to discover cause-and-effect relationship between social problems.
b. It emphasis the development of generalizations, principles or theories that will be helpful in predicting future occurrences.
c. It is based upon observable experience or empirical evidence.
d. It demands accurate observations and description. Researchers may choose from a variety or no qualitative description of their observations.
e. It involves gathering new data from primary sources or using existence data for new purpose.
f. Although social research activities may at time be somewhat random and unsystematic, it is more often characterized by carefully designed procedure that applies rigorous analysis.
g. It requires expertise. The researcher knows what is already known about the problem and how others have investigated.
h. It strives to the objective and logical applying every possible test to validate the procedure employed, data collected, and conclusion reached.
i. It involves the guests for answer to unsolved problems.
j. It is characterized by patient and unhurried activity. Researcher must expect disappointment and discouragement as they pursue the answer to difficult question.
k. It is carefully recorded and reported. Each important term is defined, limiting factors are recognized, procedures are described in detail, reference are carefully documented, results are objectively recorded, and conclusions are presented with scholarly caution and restraint.
l. It is interdisciplinary in nature.
m. It sometimes requires courage.

Purpose of Research:

The purpose of research is to discover answers to questions through the application of scientific procedure. The main aim of research is to find out the truth which is hidden, and which has not been discovered as yet. Though each research study has its own specific purpose, some general objectives of research below:

a. Research extends knowledge of human beings social life and environment.
b. Research reveals the mysteries of nature.
c. Research establishes generalizations and general laws and contributes to theory building in various fields of knowledge.
d. Research verifies and tests existing facts and theory.
e. Research helps us to improve our knowledge and ability to handle situation.

f. General laws developed through research may enable us to make reliable predictions of events.
g. Research aims to analyze inter-relationship between variables and to derive causal explanations, which help us to better understanding of the world in which we live.
h. Research aims to finding solutions to the problem, e.g.:- socio-economic problems, health problems, organizational and human relational problems and so on...
i. Research also aims at developing new tools, concepts and theories for better understanding to unknown phenomena.
j. Research helps national planning board to focus our national development. It enables the planners to evaluate alternative strategies, on-going programs and evaluation etc.,
k. Research provides functional data for rational decision making and formulation of strategies and policies.
l. Research gains familiarity with a phenomenon or to achieve new insights into it. (Studies with this object in view are termed as exploratory or formative research studies).
m. Research portray accurately the characteristics of a particular individual, situation or a group. (Studies with this object in view are known as descriptive research studies).
n. Research determine the frequency with which something occurs or with which it is associated with something else. (Studies with this object in view are known as diagnostic research studies).
o. Research help to test a hypothesis of a causal relationship between variables. (Such studies are known as hypothesis-testing research studies).

Objectives of Social Research:

a. To facilitate the understanding of human behavior.
b. To acquire knowledge about social phenomena, events, issue, problems etc.
c. To identify functional relationship existing in the social phenomena.
d. To find out the natural laws that regulates or directs social phenomena.
e. To standardize the society concept, e.g., culture, struggle, generation gap, social distance etc.
f. To formulate solution to social problems.
g. To maintain social organization, remove social tension, misconception, etc.
h. To develop social revival plan.

9.6 Some Important Terms and Concepts:

a. **Theory:** A theory is a suggested explanation for something - a ‘guess’ about the way things are, how something works, how things relate to each other. Theories may be simple or complex, formal or informal. They are used to explain or suggest explanations and to make predictions. Research is often carried out to test a particular theory (Sarantakos, 1993 p 9).
b. **Data:** (Singular: datum) this is a Latin word used to refer to ‘bits of information’ or facts, usually things which are observable and measurable. Theories and data are both needed to answer research questions (Concise Oxford Dictionary, 1969 p 309).
c. **Validity:** The extent to which a measure, indicator or method of data collection is sound or true; for example, if a measure such as an IQ test is ‘valid’ then it actually measures ‘intelligence’ (Sarantakos, 1993 pp74-78). If information (data) collected through observation is ‘valid’ then it truly reflects the phenomena observed. Validity refers to the

extent to which your research instruments (for example, questionnaires) collect data which is relevant to your research question or topic; and to the extent to which the data you collect is relevant to your research question or topic. In other words, does the instrument measure what it is intended to measure? Is the information it collects relevant?

d. **Reliability:** This means the extent to which you can trust (rely on) your instruments and your data - is the instrument dependable? Does it give consistent results over a number of trials? (Sarantakos, 1993 pp79-80). A reliable measure is one which gives the same results if the same individuals are measured on more than one occasion. For example, if you want to measure a person's weight, a valid instrument would be a set of scales. If the scales give the same reading for the same person on several occasions (under conditions where the person's weight should not change) then the instrument is also reliable. If you weigh yourself at 10am and the reading is 60 kg, then you weigh yourself again at 11am and the reading is 80kg, again at 1pm and the reading is 50kg, then your instrument (your set of scales) is probably not reliable!
e. **Sampling:** Sampling is how you choose the individuals you will include in your research; a sample is usually smaller than the total population or target group in which you are interested and should represent in some way the characteristics of this total population (Sarantakos, 1993 pp124-150). You will be familiar with the kinds of samples used in everyday life - for example, you might use a selection of small pieces of fabric to choose a covering for a sofa; a selection of small colour cards to choose a colour of paint to repaint the living room; a taste of a food to decide if you like it or not.

The purpose of using a sample in research is to investigate features of the population in greater detail than you could if the total population was used (too time consuming), and to draw inferences about the whole population from what you discover about the sample. For these inferences to be valid, the sample must be representative of the whole population. There are many different sampling techniques to choose from. Random or probability sampling is complex and uses numbers and statistics to ensure that every individual in the population in which you are interested (the sampling frame) has an equal chance of being selected. This is necessary if your research project aims to prove correlations between factors (Sarantakos,1993 p 126).

Non-probability sampling techniques are less complicated, and are often used in qualitative studies (Sarantakos, 1993 pp 137-140). You will need to read more about sampling if you are to make an informed choice about which method of sampling to use.

9.7 Research Process:

The research process- Formal research is planned, methodical and organized. 'A process is a series of linked activities moving from a beginning to an end. The research process is not rigid, but if the first steps are not carried out carefully, all the later steps will be weakened' (Dixon, Bouma & Atkinson, 1987, p 12) At macro level a well-organized research project will follow these steps:

9.7.1 Planning:

Clarify your topic, question or hypothesis; choose an approach; choose the methods you will use to collect and analyse data; decide how to select your sample.

Try to ‘ask the right questions’. Make sure your topic, question or hypothesis is ‘researchable'. Good research questions are:

A Limited in scope, narrow in focus, clearly related to a particular time, place and set of conditions.

An Often smaller fragments of larger questions or issues A Accessible - this means that information relevant to the research question can actually be collected. Usually this means data, which is observable, tangible, and measurable.

Social research cannot answer questions about right and wrong (morality), about beauty or about the truth of beliefs; for example, whether or not God exists or how many angels can dance on the head of a pin.

These are philosophical questions, the subject of speculation rather than of empirical social research. Empirical research can only answer questions about how many people believe God exists; how many and which people think Van Gogh’s paintings are beautiful; or which groups of people believe something such as euthanasia is right or wrong. Remember this when you are planning a research project.

Planning is the most important step in the research process. If you have a good research question, topic or hypothesis, and if you have worked out your research design clearly, you will have a clear plan to follow and all the later steps will be easier.

If you do not plan your research carefully, all the later steps will be difficult. In the planning stage, you should also do a literature search to find any existing research studies which would help you, and to make sure you understand the approaches and methods you plan to use.

9.7.2 Data collection:

This is probably the most active stage in the research process. Before you start collecting data, you need to make sure your data collection instruments (for example, questionnaires, interview schedules or observation checklists) are ready to use. It is a good idea to ‘pilot’ your data collection instrument before you use it, to identify any problems or flaws in it.

This stage can be very time consuming. As well as collecting your data you must also record it, summarize it and put it into some kind of order. You need to consider these issues in the planning stage.

Think about what you will do with all your completed questionnaire forms, or all your interview transcripts or completed observation notes or checklists.

9.7.3 Interpreting, analyzing and reporting:

This is the final stage in the research process. You will need to relate the data you have collected back to your original research question, topic or hypothesis, and draw conclusions about this from your data.

You also need to identify any limitations or problems you encountered and discuss how these affect your results. Your final report may also include recommendations based on what you have discovered, if this is relevant to your original purpose in doing the research. Research process consists of series of actions or steps necessary to effectively carry out research. These actions or steps are;

a. **Formulation of Research Problem:** At the very outset, the researcher must decide the general area of interest or aspect of a subject matter that he would like to inquire into and then research problem should be formulated.
b. **Extensive Literature Survey:** Once the problem is formulated the researcher should undertake extensive literature survey connected with the problem. For this purpose, the abstracting and indexing journals and published or unpublished bibliographies are the first place to go to academic journals, conference proceedings, government reports, books etc. must be tapped depending on the nature of the problem.
c. **Development of Working Hypothesis:** After extensive literature survey, researcher should state in clear terms the working hypothesis or hypotheses. Working hypothesis is tentative assumption made in order to draw out and test its logical or empirical consequences. It's very important or it provides the focal point for research.
d. **Preparing the Research Design:** After framing hypothesis, we have to prepare a research design i.e. we have to state the conceptual structure within which research would be conducted. The preparation of such a design facilitates research to be as efficient as possible yielding maximal information. In other words, the function of research design is to provide for the collection of relevant evidence with optimum effort, time and expenditure. But how all these can be achieved depends mainly on the research purpose.
e. **Determining Sample Design:** A sample design is a definite plan determined before any data is actually collected for obtaining a sample from a given population.in census inquiry we involve a great deal of time, money and energy so it not possible in practice under many circumstances. Sample designs can be either probability or non-probability. With probability samples each element has a known probability of being included in the sample, but the non-probability samples do not allow the researchers to determine this probability.
f. **Collecting the Data:** There are several ways of collecting the appropriate data which differ considerably in context of cost, time and other resources at the disposal of the researcher. Primary data can be collected either through experiment or through survey. In case of survey, data can be collected by any one or more of the following ways;

   By observation,
   - Through personal interview,
   - Through telephonic interviews,
   - By mailing of questionnaires or
   - Through schedules.

g. **Execution of the Project:** Execution of project is a very important step in the research process. If the execution of the project proceeds on correct lines, the data to be collected would be adequate and dependable. A careful watch should be kept for unanticipated factors in order to keep the survey realistic as much as possible.
h. **Analysis of Data:** The analysis of data requires a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation and then drawing statistical inference.

Analysis work after tabulation is generally based on the computation of various percentages; coefficients etc., by applying various well defined statistical formulae. In the process of analysis, relationships of differences supporting or conflicting with original or new hypothesis should be subjected to tests of significance to determine with what validity data can be said to indicate any conclusions.

i. **Hypothesis Testing:** After analyzing the data, the researcher is in a position to test the hypothesis, if any, he had formulated earlier. Do the facts support the hypothesis or they happen to be contrary? This is the usual question which is to be answered by applying various tests like't' test, 'F' test etc. F test have been developed by statisticians for the purpose. Hypothesis testing will result in either accepting the hypothesis or in rejecting it. If the researcher had no hypothesis to start with, generalizations established on the basis of data may be stated.

j. **Generalizations and Interpretation:** If a hypothesis is tested and upheld several times, it may be possible for the researcher to arrive at generalization i.e. to build a theory. As a matter of fact, the real value of research lies in its ability to arrive at certain generalizations. If the researcher had no hypothesis to start with, he might seek to explain his findings on the basis of some theory. It is known as interpretation.

k. **Preparation of the Report or the Thesis:** Finally, the researcher has to prepare the report of what has been done by him. The layout of the report should be as follows; the preliminary pages, the main text and end matter.

The preliminary pages carry title, acknowledgements and forward and then index.

The main text of the report should have introduction, review of literature and methodology.

Criteria of Good Research:

One expects scientific research to satisfy the following criteria:

a. The purpose of the research should be clearly defined and common concepts be used.
b. The research procedure used should be described in sufficient detail to permit another researcher to repeat the researcher for further advancement, keeping the continuity of what has already been attained.
c. The procedural design of the research should be carefully planned to yield results that are as objective as possible.
d. The researcher should report with complete frankness, flaws in procedural design and estimate their effects upon the findings.
e. The analysis of data should be sufficiently adequate to reveal its significance and the methods of analysis used should be appropriate. The validity and reliability of the data should be checked carefully.
f. Conclusions should be confined to those justified by the data of the research and limited to those for which the data provide an adequate basis.
g. Greater confidence in research is warranted if the researcher is experienced, has a good reputation in research and is a person of integrity.

9.8 Phases of Social Research (S.R.):

Phases of social research consist of a series of steps necessary to efficiently carry out research on any social phenomena.

These actions are closely related. They can be overlapped. Phases of S.R. basically refer to scientific research process.

There are nine phases of social research.

a. **Sensing or realizing problem:** The first step in SR process is observing the situation and sensing problem. New problems keep on emerging in the social environment. One should sense these development origins in the environment. At this stage, one may not know exactly what is happening but one can definitely sense that things are not going smoothly as they should be.
b. **Problem identification:** Once one become aware of what is happening in the environment, he/she would then focus on the problem. The researcher singles out the problem for the study, i.e. what exactly are the problems in the situation. It is thus, problem-defining stage. Without a focused definition of problem, data tends to be irrelevant, expensive and confusing. Research problem should be specific.
c. **Theoretical Framework:** Once the problem is identified, the researcher carefully studies the earlier studies, if any which are similar to the study in hand. It helps to integrate information locally so that reason for the problem can be conceptualized. This helps to develop theoretical framework. This step essentially involves a review of related literature. It familiarizes the researcher with what is already known and what is still unknown and untested.
d. **Hypothesis Formulation:** After developing theoretical framework, the researcher develops hypothesis. It is drawn from the theoretical framework. A hypothesis is a tentative answer to question. It is an educated guess. It is generally based upon prior research. It is subjected to the process of verification or disconfirmation. Hypothesis is conjectured relationship between two or more variables expressed in the form of testable statements.
e. **Research Design:** It is the plan, structure and strategy for conducting research. It describes the general framework for collecting, analyzing and evaluating data. It helps to obtain answer to research questions and to control variance. It enables the researcher to answer research questions to validity, objectively, accurately and economically as possible. Design should be carefully worked out to yield dependable and valid answer to the research questions.
f. **Collection of Data:** At this stage, the researcher has to collect data as expected. Data can be obtained from primary source or secondary source. Questionnaire, interview, observation are major instruments to collect data. This step is also called fieldwork because researcher has to visit field for administering the research instruments to collect data.
g. **Data Analysis:** It is statistical analysis that has been collected, edited, coded and tabulated. In other words, data analysis means the categorizing, ordering, manipulating and summarizing of data to obtain answer to research's question. Its purpose is to reduce data to intelligible and interpretable form so that elations of research problem can be studied and tested. Different statistical techniques are used at this stage.

h. **Interpretation and Generalization:** Interpretation takes the result of data analysis, makes inference pertinent to the research relation studied and draws conclusion about the relations. Generalization is the act of giving general form to these conclusions.
i. **Report Preparation:** Finally, the researcher has to prepare the report of his/her research. Its objective is to tell readers the problems investigated, the method used to solve problems, result of the investigation and the conclusion from the result.

9.9 Types of Social Research:

Quantitative research - Based on positivist principles, quantitative research applies strict standards of research design and seeks quantitative data (numbers, quantities); uses measurement and statistical analysis; often aims to establish cause-effect relationships or correlations between variables (see the notes on the Scientific Model of research). Quantitative research includes any research method which results in data being expressed in numerical form (Sarantakos, 1993 p 6).

a. **Qualitative Research:** Includes several different approaches based on a range of different theories. Qualitative research often aims to explore social relationships and to describe people's experiences, perceptions and interpretations of events. Qualitative research includes any research in which researchers use skills as empathetic interviewers or observers to collect unique data rich in depth and detail such as narratives and descriptions of experiences. (Sarantakos, 1993 p 6)
b. **Applied Research:** Research used to examine social and policy issues and to address specific problems; includes social impact studies, action research and evaluation research (Sarantakos, 1993 p 6).
c. **Longitudinal Research:** Studies carried out over time, usually examining changes in a particular population or in a particular social issue over a long period of time; for example, following the health status of a particular population over many years. (Sarantakos, 1993 p 6)
d. **Descriptive Research:** Often used for preliminary studies; aims to describe social systems, social relations or events and to give background information about social issues (Sarantakos, 1993 p 7).
e. **Classification Research:** Aims to categories things and demonstrate differences between classes or categories, explain or clarify social events or relationships; for example, ranking social groups according to their attitudes; grouping people according to their political preferences.
   This kind of research includes social surveys (Sarantakos, 1993, p 7).
f. **Comparative Research:** Comparative research aims to identify similarities and differences between social units; for example, examining the differences between Australian and British families (Sarantakos, 1993 p 7).
g. **Exploratory Research:** Usually undertaken when there is not enough information available about a particular phenomenon, topic or social issue. Exploratory research may be used as the base for further research; it may be used to define concepts, formulate hypotheses, or operationalize variables before conducting research using the scientific model (Sarantakos, 1993 p 7).
h. **Explanatory Research:** Explanatory research aims to explain social relationships and events, to link various factors together, or to test theories (Sarantakos, 1993 p 7).

i. **Action Research:** 'The application of fact finding to practical problem solving in a social situation with a view to improving the quality of action within it, involving the collaboration and co-operation of researchers, practitioners and laymen' (Burns, 1990, p 252). Action research criticizes the theoretical and methodological basis of conventional social research and is a popular approach in research in community services.

There are varieties of ways through which we may classify it into different categories.

A. On the Basis of Nature of Information: On the basis of nature of information, we can classify the research into two types.

a. Qualitative Research: When information is in the form of qualitative data.
b. Quantitative Research: When information is in the form of quantitative data.

B. On the Basis of Utility of Content or Nature of Subject Matter of Research: On the basis of these criteria, we can categorize the research into two categories.

a. Basic/ Fundamental /pure or Theoretical Research: Its utility is universal.
b. Experimental or Applied Research: Its utility is limited.

C. On the Basis of Approach of Research: We may classify research into two different categories.

a. Longitudinal Research: Examples of this category are historical, Case study and Genetic research.
b. Cross-Sectional Research: Examples of this category are. Experimental and Survey Research.

D. On the Basis of Method of Research: On the basis of research method, we may classify a research into five different categories.

a. Philosophical Research: It is purely qualitative in nature and we are focusing on the vision of others on the content of research.
b. Historical Research: It is both qualitative as well as quantitative in nature and deals with past events.
c. Survey Research: It deals with present events and is quantitative in nature. It may further be sub-divided into; discretional, correlational, and exploratory type of research.
d. Experimental Research: This is purely quantitative in nature and deals with future events.
e. Case-Study Research: It deals with unusual events. It may be qualitative as well as quantitative in nature depending upon the content.

***i-Basic Research*:** It is also called fundamental research. It is undertaken to improve our understanding of certain problems that commonly occur in social setting and how to solve them. It undertaken for sole purpose of adding to our knowledge that is fundamental and generalizable. This type of research may have no immediate or planned application. But it may later use in further research of an applied nature.

Its objective is therefore, is not apply the findings to solve immediate problems at hand, rather to understand more about certain phenomena or problem that occur in social life or settings, and how they can be solved. It contributes to theory formation. This research work of professors, scholars and other researchers devoted to generate new knowledge in particular area of their interest can be called fundamental research. Basic research is essentially positive. It explains the phenomena as they are and as not they should be. It may verify or establish new one. It is an intellectual exercise.

***4-Applied Research*:** It is also called action or decisional research. It is undertaken in response to a social problem, which requires a solution. Its major purpose is to answer practical and useful question. The results are practically applied to solve immediate problems. It involves normative prescription. As applied research id concerned with knowledge that has immediate application. It is also called decisional research.

Differences between Basic and Applied Research:

Differences	Basic Research	Applied Research
Purpose	Its purpose is to add human knowledge.	Its purpose is to answer practical question
Nature	Knowledge or findings is fundamental and generalizable.	It is applied and more specific (practical).
Time scale	(Theoretical).	Tight time scale.
Outcomes	Flexible time scale. It results in universal. Principles relating to the process and its relationship to outcomes.	It results in solution to problem.
Ability to solve Problem	It doesn't solve Immediate problem in hand.	It has immediate Application.

9.10 Historical Research Method:

History is the record of the changing processes. History consists of changes which social structures undergo. Social scientists studies the past to gain a better understanding of the present state of affairs. History is the meaningful record of man's achievement.

It is not merely a list of characteristics of chronological events, but an integrated account of the relationship between persons, events, times and places.

John W. Best, "Man uses history to understand the past, and try to understand the present in the light of past events and developments." F.N. Kerlinger, "Historical research is the application of the scientific method of inquiry to historical problems."

Whitney, "Historical research deals with the past experiences....its aim is to apply the method of reflective thinking of social problems, still unsolved, by means of discovery of past trends of event, fact and attitude. It traces the lines of development in human thought and action in order to reach some basis for social activity."

Redcliff Browne, "Historical method may be defined as a system in which present day events are studied with reference to the events that took place in the past."

Historical method seeks to find explanation of questions of current interest by an intensive study of the past. Many studies in the field of economics, politics, sociology, education and psychology are essentially historical in approach.

Purpose of Historical Research:

a. Historical researches provide important information concerning the effects of certain past practices and may suggest plans for future actions.
b. It also offers explanation of the how and why of many of the theories and practices that has developed and now prevails in the school/college.
c. It contributes to an understanding of the significance of the phenomenon studied.
d. It helps to gain an accurate account of the past.
e. It helps to gain a clear perspective of the present.

Sources of Historical Research:

There are many sources for collection of historical data like; Autobiographies, Diaries, Confessions, Memories, Personal letters, Accessible documents, news-papers and literature, books and Magazines, Cultural and Analytical history material, Artistic materials, historical paintings, Portraits, charts etc. These sources can be divided into two categories i.e., Primary sources and Secondary sources.

Primary Sources:

The original documents are termed as Primary sources. These are solid basis of historical research and are highly prized by a historian.

According to Kerlinger, "A primary source is the only repository of an historical datum, like an original record kept of an important occasion, an eye witness description of an event, a photograph, minutes of organization meeting and so on."

a. **Document or Records:** These are maintained and written by actual participant or witness of an event. These sources are produced for the purpose of transmitting information to be used in the future. Documents classified as primary sources are constitution, charters, laws, court decisions, diaries, deeds, genealogies, contracts, wills, autobiographies, letters, official minutes or records, permits, licenses, affidavits, depositions, declarations, proclamations certificates, lists, bills, handbills, receipts, newspapers, magazines, accounts, maps, diagrams, books, pamphlets, catalogues, films, pictures, paintings, recordings, transcriptions and research reports.

b. **Remains or Relics:** These are associated with a person, group, period, fossils, skeletons, tools, weapons, food utensils, clothing, buildings, furniture, coins, art objects, pictures and paintings are examples of relics.
c. **Oral Testimony:** These are spoken account of witness or participant in an event. It is obtained in a personal interview. It may be recorded or transcript as the witness relates his experiences.

Secondary Sources of Data:

In the words of Kerlinger, "A secondary source is an account or record of an historical event or circumstance one or more steps removed from an original history." Secondary sources are the reports of a person who relates the testimony of actual witness of, or participant in an event. The writer of the secondary source who was not on the scene of the event, merely reports what the person who was there said or wrote. Most history books and encyclopedias are the examples of secondary source.

Characteristics of Historical Method:

a. Historical method is universal.
b. Historical method involves very deep and intensive investigation of material that already exists.
c. Historical facts cannot be repeated in an accurate fashion as can be done in laboratory observation.
d. Only such problems which are based on historical records can be investigated by following this approach.
e. Historical approach to research is the application of scientific method to historical problems.
f. In Historical Method hypothesis may or may not be formulated depending upon the nature of the research.
g. The interpretation of data entirely depends upon the topic of research.

Approaches to Historical Research:

a. Perspective Approach: It means to study the events from the past towards present. It is ancient approach. Ancient approach was to study the political personality approach.
b. Retrospective Approach: It means to study the events of present and proceed to past events. It is a recent approach to study the phenomena in social milieu.

Types of Historical Research:

a. Approach: An example is the pragmatic approach used by Karl max to arrange facts of history to support his concept of socialism.
b. Subject: It includes the bibliography of a given person, monography of a town, state, nation or civilization or slightly higher level the history of ideas, institutions, or trends.
c. Technique: It is based either on documents or relics.
d. Classical studies
e. Documentary research: It considers only documents.
f. Bibliographical research:

g. It includes history of a unit. (Nation, person, culture)
h. Legal Research

The Steps of Historical Research:

a. Identification and Definition of the Problem: It involves not only the location of the problem, which has a historical significance, but also the availability of adequate data.
b. Collection of Data: It may involve anything from digging up ancient ruins to stumbling on old documents or remains. Most educational data have to be gathered in the routine fashion by giving minutes of meetings, diaries etc. Data are collected by two sources: primary or secondary.
c. Criticism of Data: The establishment of the validity of data involves a dual process, of first establishing the authenticity of the sources and then the validity of its content.
d. Interpretation of Data: This should be made from the standpoint of a hypothesis or theory of the data. Data should be considered in relation to one another and synthesized into a generalization or conclusion which places the overall significance in focus.

Limitations of Historical Research:

a. It is very difficult to study historical events on the basis of cause-effect relationship.
b. Many obstacles hinder the objectivity of the study.
c. The investigator must have a special historical perspective.
d. The importance of historical research has declined due to use of scientific method in social sciences.

Guidelines of Historical Research:

a. Primary sources should be used as extensively as possible.
b. Personal bias should not be allowed to influence research procedure.
c. Proper recognition should be given to the inter-relationship of education with other social institutions and forces.
d. Words and expressions should be interpreted in the light of their usages in earlier times.
e. Various facts should be synthesized and integrated into meaningful generalization.
f. Significant facts must be distinguished from trivial facts in a situation.

9.11 References:

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