

Lesson-1**The Scientific Method; Nature And Characteristics****1.0. Objectives:**

The objectives of this lesson are to explain the nature and characteristics of scientific method.

Contents:

- 1.1. Introduction
- 1.2. Scientific method
- 1.3. Definition of scientific method
- 1.4. Assumptions
- 1.5. Characteristics of scientific method
- 1.6. Application of scientific method to social phenomena
- 1.7. The components of Scientific Approach
- 1.8. Scientific Attitude
- 1.9. Essentials of good scientific method
- 1.10. Uses of scientific method
- 1.11. Limitations of scientific method
- 1.12. Summary
- 1.13. Key words
- 1.14. Exercises
- 1.15. Reference Books

1.1. Introduction:

Science has been defined as an accumulation of systematic knowledge. Knowledge refers to the goal of science. 'systematic' refers to the method of reaching that goal. Knowledge is something to do with knowing. We know the things through acquaintance. Knowing may also be through the description of the characteristics of certain things. Human knowledge takes the form of belief or judgement. Some beliefs are supported by evidence and some are not supported by evidence. Knowledge may be collected from different sources e.g. experience, human beings, books, Nature, etc..... knowledge includes facts as well as the principles and inference. Knowledge has three elements : (i) There is a system of ideas, (ii) The ideas refer to things actually existing; and (iii) There is belief in such correspondence.

Science: Science is the pursuit of knowledge. Science is quest for knowledge. The purpose of science is the creation of reliable knowledge about empirical world. Science helps in the advancement of knowledge. Science is conquest of nature, of ignorance, of poverty and diseases and of the evils.

Method: The term 'Method' means an apt way of doing something. Every science has to use an appropriate way of investigating into its field of study. As Karl Pearson remarked, "The unit of all sciences consists only in its method, not in its Material" Every science uses scientific Method or the study. Experimentation is possible in physical and natural sciences. It is sciences like sociology. Social phenomena is too complex for studying under

Scientific truth is rational in structure and empirical in content. Scientific truth is public truth. Since science is concerned with what is happening in this world, the content of scientific truth is empirical.

1.2 Scientific Method:

Scientific knowledge is based on observable facts. George Lundberg defines scientific method as one consisting of systematic observation, classification and interpretation of data. There is difference between ordinary generalization and the scientific method. Scientific method is characterized by formality, rigorousness, verifiability and validity.

Scientific method helps for discovering and creating empirical knowledge. Empirical knowledge means observable knowledge. We can gather knowledge through the senses

1.3 Definition of Scientific Method:

L.L Bernard has defined the term 'scientific method' as "science may be defined in terms of its major process that takes place within it. These are testing, verification, definition, classification, organization including prediction and application".

According to Lundberg "The scientific methods consist of systematic observation, classification, and interpretation of data".

Prof. Wolf has defined the scientific method "in a wide sense as a mode of investigation by which science has been built up and is being developed, and it is entitled to be called a scientific Method".

According to Encyclopedia Britannica,..... "In a wide sense any method of investigation by which scientific or other impartial and systematic knowledge is acquired is called a "scientific Method"

Though the term 'scientific method' has been defined differently, it simply means 'a systematic method of analysis'. Bernard says that scientific method involves six stages Viz., testing, verification, definition, classification, prediction and application.

1.4 Assumptions:

Scientific method is based on certain assumptions. The following are the assumptions.

1. Regularities:

Scientific method assumes that the world is regular and phenomena would occur in pattern.

2. Verification:

Since science is empirical study, verification is the prime condition of the methods.

3. Techniques:

Scientific method assumes that correct techniques and interpretation are to be adopted.

4. Quantification:

For the purpose of precision and accuracy, mathematical formulas and measurements are applied. All observations must be quantified.

5. **Values:**
Science is value free. It has nothing to do with moral or ethical considerations.
6. **Systematisation:**
The scientific method, is well-organised logical and theory oriented analysis.
7. **Pure science:**
For analyzing a social problem, pure science approach is necessary.
8. **Integration:**
Integration of social sciences is necessary to get a clear, and correct picture of the problem.

Thus, it can be understood that " Scientific Method implies an objective, logical and systematic method of analysis".

1.5 Characteristics of Scientific Method:

The following are the characteristics of scientific method:

1. Inter- subjective reliability:

A piece of information or statement of events or relationship must have inter-subjective reliability. If several observers use similar methods of test, and agree upon the statement, it is said to have inter-subjective reliability.

2. Verifiability:

The conclusions must be subject to verification at anytime. The phenomenon must be capable of being observed and measured. For example we may take the famous scientific law that all matter expand on being heated. To verify this statement we can heat a matter and see whether it has expanded. Suppose we arrive at the conclusion that illiteracy is the cause of criminality among the people. This statement should be verified from our observation. We must verify whether criminals are more among illiterates or not. That is how the facts are verifiable in the scientific method.

3. Objectivity:

Science demands that a piece of information is said to possess objectivity. It should be described in terms of a public standard rather than a private or subjective one. There is no place for subjectivity. The facts should not be by one's own wishes. All persons should arrive at the same conclusion about the phenomena. For example when we say, coal is black, coal will appear black to all people. But if we say coal is useful, all may not agree with this view.

4. Quantifiability:

Another characteristic is that the proposition must be quantifiable. It must be capable being measured and expressible in numerical terms. The measurement may be very precise.

5. Theoretical Orientation:

Science is characterized by an orientation to the theory. The object of science is to produce a body of propositions. These propositions should have theoretical orientation. These propositions are interrelated to explain the social phenomena. The propositions should be theoretically meaningful and relevant.

6. Universality:

Science is concerned with types, kinds and classes of objects. The scientific principles or laws should have universal application. The time, place and circumstances have no effect on the principles / laws laid down by scientific method. For example, the sunrises in the east and sets in the west is a universally known phenomenon. Complete universality is a myth in social sciences due to heterogeneous nature of social phenomenon. The laws are true only under given circumstances.

7. Predictability:

The results of science can be predicted with sufficient accuracy. For example we can say with certainty that if the water is reduced to Zero degree, it will change into ice. Predictability depends on the nature of phenomena and the causative factors. Accurate prediction is not possible in the case of social phenomena. In social sciences the number of causative factors would be more. Hence prediction becomes difficult.

8. System:

System pertains to the method of arriving at the result. The conclusions must be drawn from systematic mode of investigation. Haphazard methods cannot be called scientific. The results arrived at by means of haphazard methods even if true, cannot be called scientific because their accuracy is purely accidental.

1.6 Application of Scientific method to social phenomena:

Social research deals with the social phenomena. There is difference between physical phenomena and social phenomena. Experimentation is possible with physical phenomena. Social phenomena cannot be put to laboratory tests. We may face certain difficulties in the application of scientific method to social phenomena. The following are the difficulties in the application.

1. Complexity of social Data:

Human behaviour is complex. Many factors influence human behaviour. No two persons are alike. The behaviour of man changes from time to time and the social data is very complex. It cannot be put to scientific tests. However, social data is not so complex. Though persons differ from one another, they have similarities also. Complexity is a relative term. It depends upon our knowledge of the subject matter. Even in physical sciences, there is some degree of complexity.

2. Unpredictability:

Another characteristic of science is predictability. Prediction is possible in the case of physical sciences. But it is not so in case of social phenomena. Social behaviour is irregular and unpredictable. Even this argument is not totally correct. Though it is difficult to predict the behaviour of individual, the behaviour of group can be predictable.

3. Subjectivity and intangibility of social phenomena:

Social phenomena has subjectivity. It lacks objectivity. Traditions, customs, attitudes, values etc., are subjective. Verification becomes difficult in the case of such subjective things, The above abstract things like tradition and custom have become standardized. All the people understand them in the same way. Techniques have been developed to measure subjective things in an objective manner.

4. In capacity of being dealt through empirical methods :

Quantitative Measurement is not possible in the case of social phenomena. Social phenomena is mostly qualitative. For example, we cannot measure urbanisation quantitatively. Even this argument is not correct. In the beginning physical sciences also used qualitative methods. Quantitative methods were developed in social sciences also. Social phenomenon is also capable of being dealt through empirical methods.

5. Lack of Homogeneity:

It is argued that no two persons are alike. Hence the conclusions cannot be applicable to all persons and to all cases. Social phenomena is not homogeneous. This argument is also not correct. Though no two persons are alike in some respects, they are certainly alike in certain other respects. Hence the conclusions of the study will apply to other persons also.

6. Difficulty in the use of Experimental Method:

Physical sciences can use laboratory tests. Physical phenomena can be tested and verified at any time. In social sciences, such a facility is lacking. We cannot put human beings to laboratory test. This argument is also not correct. Some of the physical sciences like astronomy cannot be put to laboratory tests. In recent years laboratory tests have been successfully applied to social sciences also.

7. Interdependence of cause and effect:

In social phenomena, the cause and effect are interdependent. It is difficult to find as to what is the cause and what is the effect. It is difficult to know whether low wages are the cause of poverty or whether poverty is a cause of low wages.

8. Dynamic nature of social phenomena:

Human society is constantly changing. What was true of past may not be true of the present or future. There is no use of studying a thing which is frequently changing. This is also not correct. Although human beings are changing, their fundamental nature remains unchanged.

Thus various arguments declaring the difficulties in the application of scientific methods to social phenomena do not hold much water.

It is to be noted that the tendency towards the use of scientific methods is fast growing in social sciences. In the near future, the laboratory techniques may also be developed in social sciences.

1.7 The components of Scientific Approach:

The scientific approach has two components: the procedural and the personal

Procedural component:

The procedural component has the following steps.

1. Define the problem
2. Establish hypothesis
3. Collect the data
4. Analyse the data to test the hypothesis and draw inferences.

The researcher must have thorough knowledge of the subject-matter of the problem. He must operationalise the concepts. He must select appropriate methods for collection of data. He must use relevant statistical techniques and tests for testing hypothesis. All these steps require creative imagination, extraordinary care and patience.

The Researcher's personal qualities:

As stated by Eigelberner, the researcher needs, " the scientific imagination to construct hypothesis, the analytical ability to devise crucial experiments to test the hypothesis, the resourcefulness, manipulative skill and persistence to carry through the experiment, the perspective which distinguishes the essential from the non-essential, and the reasoning which coordinates individual facts into a principle. He must possess integrity, honesty, sincerity, poise and perseverance. He must also possess. " the spirit independence and the spirit of originality".

In short, a true scientist must possess the devotion of a mother, the poise of judge, the objectivity of a philosopher, the courage of a soldier, the perseverance and patience of beaver, the fervour of a patriot and the vision of a prophet.

1.8. Scientific Attitude:

The scientific method calls for scientific attitude. The following are the elements of scientific attitude.

- (i) Consistent thinking
- (ii) Objective, dispassionate and unbiased devotion to collection and treatment of facts.
- (iii) Overcoming personal preconceptions and value judgements.
- (iv) Avoiding personal and vested interests
- (v) Avoiding wishful thinking
- (vi) Taking nothing for granted without evidence, tests and proofs.

1.9 Essentials of good scientific methods:

- 1) Careful logical analysis of the problem, isolating it from other problems and separating its elements
- 2) Definition of terms and concepts and statistical units and measures
- 3) Collection of cases and data pertinent to the subject on hand
- 4) Classification of cases and phenomenon and data.
- 5) Expression of factors in quantitative terms wherever possible.
- 6) Rigorous experimental or statistical procedure in summarizing the data.
- 7) Sound logical reasoning in drawing conclusions and generalizations.
- 8) Statement of conclusions and generalizations in clearer terms.
- 9) Elimination of the personal equation
- 10) Complete and careful reporting of the data and the methods of analysis so that others can check the analysis.

1.10 Use of Scientific Method:

There is universal human urge for possession of knowledge. But people may not have strong desire for a critical type of enquiry. Scientific method is concerned with the verification of the acquired knowledge. The conclusions drawn by scientific method have objectivity. It is only through scientific

method, we can increase the body of tested knowledge and eliminate arbitrary opinions. The desire to acquire truth requires scientific method. If this desire is strong, the progress of scientific method becomes rapid. The scientific method may not lead to final truth. But it helps us to take correct step in the right direction. It minimizes the dangers associated with adventure, uncertainty and hasty decisions.

It settles differences in a rational way, which is appealing to all. It eliminates narrow outlook and subjective element. All people accept the rational procedure. Because it requires detachment and disinterestedness, it is the finest test of a liberal civilization.

1.11. Limitation of Scientific method:

Scientific method has the following limitations;

1. Scientific method involves abstractness.
2. Scientific explanation is never complete.
3. The conclusions drawn by scientific method are not final.
4. Sciences have limited scope, dealing with a particular area. They are based on certain assumptions.
5. Superstition and cherished beliefs are hostile to the growth of scientific method.
6. Formal procedures are fruitless: definitions and formal distinctions are not often used properly; and statistical information may be irrelevant
7. Scientific judgement is difficult and sometimes impossible when situations demand immediate action.
8. In a society where there is no desire for truth or freedom for expression of intellectual doubt, growth of scientific method is hampered.
9. Scientific researchers in social fields are often in the hands of those who cannot oppose established opinion or taboos.
10. Scientific method cannot guarantee certainty of achieving the goal.

1.12. Summary:

Science is the pursuit of knowledge. The term 'method' means an apt way of doing things. Scientific knowledge is based on observable facts. Scientific method helps for discovering and creating empirical knowledge. Scientific method is based on the following assumptions.

- (i) Regularities
- (ii) Verification,
- (iii) Techniques,
- (iv) Quantification
- (v) Value-free
- (vi) Systematization
- (vii) Pure science approach
- (viii) Integration

The following are the characteristics of scientific method

1. Inter-subjective reliability
2. Verifiability

3. Objectivity
4. Quantifiability
5. Theoretical orientation
6. Universality
7. Predictability
8. System

There are difficulties in the application of scientific method to social phenomena due to the following factors;

1. Complexity of social data
2. Unpredictability;
3. Subjectivity
4. Lack of homogeneity
5. Difficulty in the use of experimental method
6. Dynamic nature of social phenomena

Scientific method calls for scientific attitude. Through scientific method, we can increase the body of tested knowledge. The essentials of scientific method include careful logical analysis, definition of the terms, collection of the cases and data, classification of cases, summarizing the data and careful reporting of the data. The scientific approach has two components, the procedural and the personal. The researcher must possess integrity, honesty, sincerity, poise and perseverance. Scientific method has certain limitations. The conclusions drawn by scientific method are not final.

1.13 Key Words:

- a) Scientific method
- b) Objectivity
- c) Scientific Attitude

1.14. Exercises:

1. Discuss the characteristics of a scientific method
2. Explain the difficulties in the application of scientific method to social phenomena
3. What are the assumptions and limitations of scientific method?

1.15 Reference Books:

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Lesson - 2**SOCIAL RESEARCH AND SOCIAL WORK RESEARCH****2.0 OBJECTIVES :**

The objectives of this lesson are to explain the nature of Social research and Social work Research and to bring out the difference between Social research and Social work research.

CONTENTS:

- 2.1. Introduction
- 2.2. Social Research
- 2.3. Objectives of Social Research
- 2.4. Social Work Research
- 2.5. Social Work Research Project
- 2.6. Social Research and Social Work Research
- 2.7. Scope of Social work Research
- 2.8. Subjects for Social Work Research
- 2.9. Limitations of Social Work Research
- 2.10. Summary
- 2.11. Key words
- 2.12. Model Questions
- 2.13. Reference Books

2.1 INTRODUCTION :

Social research is directed towards the advancement of any of the basic social sciences. There is difference of approach between social workers and social scientists, it is difference in orientation. Social scientists separate their values from scientific theory. Social science research is value-free. Social scientists apply rigorous empirical investigations. They study the phenomena objectively and disinterestedly. Their research is designed without reference to practical results. It has been called " pure research". Social work research is concerned with the solution of specific social problems. Social scientists are research-minded. Social workers are action oriented.

2.2. SOCIAL RESEARCH:

Research is done in the field of social sciences, behavioural sciences, sociology, anthropology and other social sciences. Research is done in social sciences to improve knowledge, to understand human behaviour, to reject old theory and modify them or to propound new theory. Social research helps in policy-making and in planning. The researcher does research with academic orientation, taking into account the gaps in the knowledge of social sciences. The aim of social research is to understand social phenomena.

Classification of Social Research : Social research may be classified into two main categories.

1. **Theoretical type of research :** Theoretical research is also called pure research. Such research may not depend on primary data or secondary data, but it will contribute to the realm of theory and to the existing literature on the subject by way of interpretation or a different approach to the problem.
2. **Empirical Research :** Empirical research is based on the empirically gathered primary data. Such studies aim at an accurate assessment of the conditions in the society. Such research aims at discovering of facts, the root causes of the problem and solving them. For example, a study of the relationship between illiteracy and crime in a central prison falls under this category. If we study the level of literacy of the prisoners in a central prison, the findings may reveal that majority of the prisoners are illiterates. Hence the study establishes the relationship between illiteracy and crime.

2.3. OBJECTIVES OF SOCIAL RESEARCH:

1. **Development of knowledge :** Social research aims at collecting a systematized body of knowledge. Adding to the existing knowledge is the main objective of research. Social research is a scientific effort to acquire further knowledge about the social phenomenon.
2. **Scientific Study of Social life :** Social research is a Scientific study of Social phenomenon and Social facts. The researcher studies collective processes, Social structure and Social processes. Social research studies human being, human behaviour and social life of man.
3. **Welfare of Humanity :** No one makes a study only for the sake of study. His study is for a higher objective. Welfare of humanity is the higher aim of research. One may set his goal material gain or social prestige. For some Scientists, Scientific enquiring is an end in itself.
4. **Classification of facts :** P.V. Young states that "Social research aims to clarify facts. In a given Universe of discourse to find the specific determined sequences and interrelationships of facts and their Social setting. To develop a series of clear cut concepts and to examine the old concepts which are to define Social life".
5. **Social control and prediction :** Prediction of the behaviour of particular type of individuals under specified conditions is one of the objects of research. Social research studies, Social values, beliefs, events etc. It finds out new facts and verifies the old facts. It is a scientific study of Social life.

Basic assumptions of Social Research :

- (1) It is assumed that an objective and unbiased study is possible.
- (2) It is also presumed that there is some kind of natural law.
- (3) It is possible to predict the future course of Social phenomena.
- (4) There is causal relationship between Social behaviour and events.
- (5) It is possible to draw a representative sample from the whole of the population.
- (6) It is possible to measure different variables in quantitative terms.

- (7) The Social Scientist has no pre-conceptions about the subject under study.
- (8) It is assumed that controlled and limited experiments may be conducted in Social Sciences.

Trends in Social Science Research:

- (1) There is increased impetus to research on Social problems.
- (2) The trend is now towards an objective and Scientific approach.
- (3) Social Science research is becoming more and more cumulative in the sense, researchers build up on data already collected by others.
- (4) Social Science research is now involving team work.
- (5) Social events are also amenable for Scientific study, since human behaviour follows some definite trend.

2.4. SOCIAL WORK RESEARCH :

"Social Work research is the systematic critical investigation of questions in the Social Welfare field, with the purpose of yielding answers to problems of Social Work and of extending and generalizing Social Work knowledge and concepts". (Friedlander).

The methods applied in Social Work research are mostly borrowed from Sociology, Social psychology, History and Anthropology.

Research contributes to knowledge. Social Work knowledge is drawn from Social Work research. Research work in Medicine, Psychology, Psychiatry, Biology, Law, Economics, Sociology and other related disciplines made important contributions to Social Work knowledge. In the beginning Social Work was hesitant in applying the research methods of other Social Sciences. The hypotheses of Social Work research were not tested by the methods of Social Science research. In the beginning Social Work research included community studies of social problems, agency programmes, structure and operation and the like. These studies served only to prove the need for existing or new Social services. These studies facilitated community welfare planning. They did not contribute to the Scientific knowledge of human nature and behaviour. There is need for new Social Work methods for research.

Social Scientists were skeptical about the results of Social Work research. These differences resulted in mutual criticism and misunderstanding. Now Social Workers are expanding their research to include Social Work theory, diagnosis and treatment typologies. They included methodological theory research. They also included operational research, exploring new areas for Social Work practice and research.

2.5. SOCIAL WORK RESEARCH PROJECT :

A Social Work Research Project may follow the following procedure.

1. **Selection of Research Project :** Experiences and data of social work practice with individuals, groups or communities are used to define and formulate the social work research problem. The research project aims either to clarify a specific problem through the application of social theory or to systematize the various aspects of the selected problem.
2. **Formulation of hypotheses :** The hypotheses may be formulated to clarify and solve the problem in question.
3. **Construction of a research design :** A research design that is suited to test the validity of the hypotheses by empirical verification or rejection may be constructed.

4. **Fact-finding process** : It may include observations, interviews and inquiries to obtain the facts and data that are required by the hypotheses and the research design.
5. **Analysis** : Analysis of the collected facts and data in order to determine whether they logically support the hypotheses or refute them.
6. **Interpretation and evaluation** : Interpretation and evaluation of the research findings and their conclusions to determine whether the findings support a convincing answer to the problem studied and whether they may serve as the basis of further studies.

2.6. SOCIAL RESEARCH AND SOCIAL WORK RESEARCH :

"The Social research is directed towards the advancement of any of the basic Social Sciences while research in Social Work deals with problems faced by professional Social Workers and by the community in its concern with Social Work functions. In Social Work research the problem to be investigated is always to be found in the course of doing Social Work or planning to do it. Both the methods and theories of Social Sciences may be utilized, but they are useful to Social Workers only as they help to answer questions arising out of Social Work" (S.Dasgupta 1968).

Social Work research can survey the whole Social phenomena like Social Science research but its objective will be to study from the point of view of Social Work. The data interpretation and analysis will be in the form that it is useful for the professional Social Worker.

Social Work research is the application of systematic and Scientific knowledge in order to find answers to questions related to alternate intervention in Social Work and to problems faced by Social Work practitioners in the practice of their profession.

Research aims at enhancing knowledge related to Social Science but also put this knowledge into practice, through Social Work practice.

Research is used to enhance Social functioning at individual, group and community levels.

Social Work research is a part of Social research. Research begins with practical orientation taking into account the needs and problems faced by the people. The aim of Social Work research is to assess the problems related to individual, group or community and formulate effective intervention-strategy or to assess the effectiveness of intervention-strategies.

2.7. SCOPE OF SOCIAL WORK RESEARCH :

Social work research may be undertaken covering the subjects like theory building in Social Work, fact finding, policy making, programme formulation, programme implementation, programme monitoring and programme evaluation. Research may be taken up in all fields of Social work, like-school, family, elderly, correctional Social Work, community development, Medical and psychiatric Social Work etc. The changing Socio-economic scenario advancement of science and technology and changing ideologies makes the scope of Social Work research ever expanding. Social Work research is advantageous in formulation of welfare services, social policy, social legislation and strengthening the social security of various groups.

Social Work Research in India : The research in Social Work in India has not made much head way. The researchers in India are still under the influence of methods, theories and techniques developed in the western countries. Those methods and techniques have to be modified to suit the Indian situation. The Social Work researchers are not motivated enough to carry out substantial research. Though the demand for professional social workers has increased, there seems to be a meager change in the

field of research. The studies are conducted to match the needs of the fundings organizations rather than those of community people.

2.8. . SUBJECTS FOR SOCIAL WORK RESEARCH:

Some of the areas in which Social Work research in India needs to be done are:

1. **Studies in methods of Social Work** : Studies in the methods of Social Work may be undertaken to assess their efficacy in the Indian context. The contribution of case Work, group work, community organization and social action in various settings in India needs to be studied.
2. **Study of Social Problems** : Studies of Social problems may include subjects like poverty, prostitution, drug abuse, problems of disadvantaged groups like scheduled castes, scheduled tribes, unorganized labour and stigmatized groups like mentally challenged, HIV patients, Leprosy patients etc.
3. **Social Policy** : Studies of existing social policy measures for various groups like the elderly, women, children, youth etc may be undertaken to examine their adequacy.
4. **Human Rights** : Research studies on human rights violations, exploitation of the weaker sections, Atrocities on scheduled castes, scheduled tribes and women may also be taken up.
5. **Training and Field Work** : Research is needed in development of training curricula, evaluation of training techniques and in integrating the field experience with the contents of training programmes.
6. Studies of the History of charitable institution
7. Social Welfare legislation
8. Social welfare Programmes
9. Social work concepts
10. Studies of the expectations, perceptions and situation evaluations of social workers.
11. Studies of the intentions, goals and self image of Social workers
12. Studies of the content of Social work processes.
13. Studies that test the adequacy of available social services in relation to the needs of the individuals, groups and community.
14. Studies of client's expectations, goals, perceptions and evaluation of situations.
15. Studies of client's behaviour in relation to their reactions to social work practice.
16. Studies in the methodology of social work research.

2.9. LIMITATIONS OF SOCIAL WORK RESEARCH:

Social work research suffers from certain limitations as follows.

The Complex Social Phenomena are broken down into simpler parts and only one part is assessed. The interaction between the other parts is neglected. Such studies may not give correct solutions to the problems.

Though one accepts universality of social work theory and practice, in the context of cultural and social differences, modifications may be necessary. Biases of the researcher, funding organizations, Government departments and NGOs have led to the mismatch between the needs and programmes. People expect research to solve almost all human problems. But people may not use the knowledge arrived at through research. Hence all social work research may not lead to change, always.

Skills of a Social worker in Social work research :

For conducting interviews, the skill of interpersonal interaction and rapport will facilitate social work research. Social group work skill helps the social worker to minimize the biases emerging in focused group discussions. During participant observation, social workers can understand the occurrence of a Social phenomena in its real essence. The skills of case work method guide the worker to assess the problems in case study method in a much better way. The philosophies and principles of Social work match with the ethics and norms of Social work research.

Definition of Social work terms and concepts :

Social work research needs to develop its own conceptual tools. There is need for clarification of the definition of social work terms. Terms such as social adjustment, Adaptation to stress, environmental change, group therapy, social work treatment etc., may be defined. These concepts require precise definition and delimitation. These concepts may be integrated with the concepts of the social sciences. Such integration will eliminate serious differences between social scientists and social workers. It may also increase the possibility of inter disciplinary studies. Social work research will provide central concepts which are necessary for a growing and systematic social work research.

There is progress in social work research in the recent years. As a result, scaling techniques and other statistical measures have been developed. There is development of evaluating criteria for group work practice. Devices for interviewing and clinical observations are also developed. There still remains the challenge of defining and developing special appropriate research measures for Social work phenomena. This cannot be achieved without the creation of a conceptual framework.

2.10. SUMMARY :

Social research is directed towards the advancement of any of the basic social sciences. There is difference of approach between social workers and social scientists. Social research may be classified into two Main categories, theoretical type of research and empirical research. The objectives of social research include (1) Development of knowledge, (2) Scientific study of social life, (3) Welfare of humanity, (4) Classification of facts, (5) Social control and prediction. Social research is based on certain assumptions.

Social work research is the systematic critical investigation of questions in the social welfare field. Social work knowledge is drawn from social work research. Social work research project may follow the following procedure;

- (1) Selection of research project,
- (2) Formulation of hypothesis;

- (3) Construction of research design,
- (4) Fact finding process,
- (5) Analysis,
- (6) Interpretation and evaluation.

The social research is directed towards the advancement of any of the basic social sciences while research in social work deals with problems faced by professional social workers and the community. Social work research may be undertaken covering the subjects like theory building in social work, fact finding, policy making, programme monitoring and programme evaluation. The research in social work in India has not made much headway.

Subjects for social work research may include studies in methods of social work, study of social problems, social policy, human rights, training and field work etc., social work research needs to develop its own conceptual tools. There is progress in social work research in recent years.

2.11 KEYWORDS :

- (1) Research design
- (2) Hypothesis
- (3) Evaluation.

2.12. EXERCISES :

- (1). Distinguish between social research and social work research.
- (2). Discuss the scope of social work research.

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Lesson - 3**CASE STUDY AND STATISTICAL METHODS****3.0. OBJECTIVES :**

The objectives of this lesson are to explain case study and statistical methods and to bring out the difference between the case study and statistical methods.

CONTENTS :

- 3.1. Introduction.
- 3.2. Definition
- 3.3. Assumptions
- 3.4. Sources of case Data
- 3.5. Characteristics of case study method
- 3.6. Case study method and statistical method
- 3.7. Importance of case study method
- 3.8. Limitations of case study method
- 3.9. Improvement in case study method
- 3.10. Summary
- 3.11. Key words
- 3.12. Exercises.
- 3.13. Reference Books

3.1. INTRODUCTION:

We may divide the methods of social research broadly under two parts namely case study methods and statistical methods. Statistical methods are based on large scale collection of facts. Case study is confined to very small number of cases. The case study is more intensive in nature. The field of study is limited. It has more depth and aims at studying something about everything.

3.2. DEFINITION :

Pauline V. Young defines case study as, "A comprehensive study of a social unit, be that unit a person, a group, a social institution, a district or a community. " "Institutions such as industrial organizations, public transport corporations, insurance and Banking companies have also been studied as social units."

Hodum has explained, that " case study method is a technique by which individual factor whether it be an institution, or just an episode in the life of an individual or a group is analyzed in its relationship to any other in the group"

According to Goode and Hatt, " It is a way of organizing social data so as to present the unitary character of the social object being studied."

Start a queen defines case study as "the examination of a single situation, persons, groups, or institutions as complex wholes in order to identify types and process."

Burgess used the words "the social Microscope" for the case study method.

From the above definitions, we can say that case method is a form of qualitative analysis. In case study method, complete observation of an individual or a situation or an institution is possible. One can study every aspect of the concerning unit in minute detail. Case study method is a study of a particular unit in detail.

3.3. ASSUMPTIONS :

1. **Totality of the Being :** A unit is indivisible whole. It cannot be studied piece-meal. Hence it has to be studied in its wholeness.
2. **Underlying unity :** Though there is diversity among the units, there is an underlying unity. A unit is not different from other units in all respects. Hence the study of a particular unit has some significance.
3. **Complexity of social phenomena :** Social phenomena is very complex. Hence it requires much deeper study. This is possible only through case study.
4. **Influence of Time :** Social phenomena are influenced by time. We have to study the problem in its historical perspective. Hence under case study, we study the unit over a period of time.

3.4. SOURCES OF CASE DATA:

Following are the main sources of case data.

1. **Personal Documents :** Most of the people keep diaries and write their autobiographies. These are personal documents. They are self revealing records. These documents are important for social research.
2. **Life History :** The life history is the study of various events of individual's life. This can be obtained through interviews with the respondent. In this study, the entire life of the respondent is taken into account. The entire life cycle of an individual is studied, tested and enquired in this type of case study.

3.5. CHARACTERISTICS OF CASE STUDY METHOD :

In modern social research, case study method is extensively used in different disciplines. It is a 'qualitative' technique. Following are the important characteristics of the case study method.

1. **Single unit Analysis :** The case study method is generally known as 'single analysis method'. The unit of study may be an individual, a family, an institution, a culture group or entire community. For instance study of a criminal, a tribe, any NGO may come under the purview of case study method.
2. **Intensive study :** In this method, the unit is studied intensively. The study covers long period of time to know the historical background of the unit. For instance a village panchayat is studied under case study method; a period of 5 to 10 years is taken for consideration to know the historical background of the panchayat institution.