
UNIT 1 BASIC TENETS OF RESEARCH

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1.0 OBJECTIVES

Research has become an integral part of all the disciplines and professions. In this unit you would be able understand the basic features and characteristics of research. After reading this unit, you should be able to understand the:

- Scientific approach and objectivity in research;
- Features of research;
- Relevance and need of research; and;
- Social work research as a method of social work;

1.1 INTRODUCTION

All the organisms including humans get information from their surroundings. They analyze and utilize this information for better adaptation to their environment. However, often times that information is biased. In research, effects are directed towards collection of information in such a manner that it is accurate, dependable and reliable. So, research is a scientific process of gathering authentic and reliable information about certain aspects of the world around us. It may be defined as “a systematic inquiry towards understanding a social phenomenon”. Research is a scientific approach to gain knowledge.

Research is a vital component of most of the social work interventions. It helps in finding the root cause of the problem at hand. Certain characteristics that make fact finding endeavour a research are – objectivity, verifiability, replication and prediction. Though certain basic components of natural research and social science research remain the same, the latter has more flexibility and variability than the former one. Let us understand these aspects in detail.

1.2 RESEARCH: MEANING AND BASIC CHARACTERISTICS

In our day to day living, we observe things and events around us and respond according to our perceptions or views about those stimuli (things and events). Research is also observing certain problems or issues in a specific way characterized by objectivity and without preconceived notions or biases. Research may be defined as “a structured inquiry that utilizes acceptable scientific methodology to solve problems and creates new knowledge that is generally applicable” (Grinnell, 1993). Likewise, Burns (1994) defines research as “a systematic investigation to find answers to a problem”. According to Kerlinger (1986), “scientific research is a systematic, controlled empirical and critical investigation of propositions about the presumed relationships about various phenomena”.

From the above definitions it is clear that research is a process for collecting, analyzing and interpreting information to answer to certain well-defined questions. Though there are innumerable topics or areas where research can be carried out, certain basic characteristics are common in conducting research. Let us briefly examine these characteristics of research.

Scientific: Any fact finding attempt is called a research if it is scientific. In other words, if the research process is systematic, follows a well-specified procedure and methodology of collection, classification and interpretation of data, it is called scientific.

Objectivity: A research is often beyond the subjective biases of the researcher. Objectivity is one of the prominent features of research. Strict procedures of research work are directed to eliminate personal biases of researchers.

Verifiability: Another characteristic of research is verifiability which means that data collected and interpreted can be scrutinized and tested for accuracy and genuineness. The research findings are available in the public domain for verifiability. This concept implies that whatever you conclude on the basis of your findings is correct and can be verified by you and others.

Replication: Related to verifiability is another characteristic of research called Replication. It implies that your research work can be carried out again in same or similar context and should give similar results. When a systematic procedure of data collection and interpretation is employed, findings are replicable and verifiable.

Prediction: Research findings explain certain events or phenomenon and also predict future trends. This helps in planning interventions accordingly. This characteristic of research also depicts its utility. Predictions also lead to theory-formation.

Rigorous: Research follows a strict procedure. It requires lot of hard work, both mentally and physically. Researcher needs to be consistent and persistent in his/her efforts. Research in general requires a long term commitment.

Controlled: Many research studies especially in natural sciences are carried out in ‘controlled’ conditions. Natural scientists often in laboratory conditions

control many physical aspects such as light, heat, pressure or force, etc. Even in social science research studies can also be conducted in ‘controlled’ conditions. It simply means that the researcher is manipulating one variable (the independent variable) to study the cause effect relationship. Social scientists also make use of controlled conditions. For instance, to study the impact of meditation on stress reduction, scientist can introduce meditation sessions in one group of participants after such sessions are held. After some period, stress levels of both groups are measured again to see the impact of meditation. This is called controlled conditions in research.

Systematic: This implies that the research work follows specific stages and tasks. For instance, formulation of objectives is followed by chalking out sampling details. The different steps cannot be taken in a haphazard way.

Empirical: Research is based on direct experience or observation by the researcher. This means that researcher collects data himself or herself using specific methods, techniques and tools.

Critical: Research requires critical enquiry into a social problem or phenomenon. It begins with certain questions like ‘why’, and ‘how’. This critical analysis helps in finding the ‘truth’.

For the process to be called research, it is imperative that it has the above characteristics.

Check Your Progress I

Note: Use the space provided for your answer.

- 1) What are the basic characteristics of research?

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1.3 NATURAL AND SOCIAL SCIENCE RESEARCH

In general, science is understood as an endeavour to understand, explain and predict the world around us. Science entails distinctive method of enquiry having the characteristics such as objectivity, reliability, verifiability, etc., that we have studied above. Science has two main branches – natural science [which deals with the physical world, for instance, physical, chemistry, geology, biology, etc.] and social science [that covers the scientific study of human society and social relationships such as economics, politics, social work, and so on]. So, social science is the study of human characteristics and behaviours, psychological traits and the interaction of socio-cultural factors whereas the natural sciences deal with the studies and activities surrounding the Universe and Earth’s resources.

Until 18th century, humans usually used to provide metaphysical reasons for natural and physical events around them. For instance, thunder and lightning, which is a natural phenomenon, was interpreted as 'God is angry'. Likewise, floods and droughts were seen as punishment invoked upon societies due to the wrong-doings of the people. Superstitions and wrong beliefs were rampant as humans tried to make sense of natural events around them.

In this backdrop, Auguste Comte laid the foundation of scientific approach or science as he said that nothing should be believed unless and until it is tested through five senses. This concept is known as Positivism. The term 'Positivism' is used to describe an approach to the study of society that relies specifically on scientific evidences, such as experiments and statistics, to explore the true nature of operations of social systems.

Let us, take the example of falling of apple and discovery of gravity by Newton. Since Newton did not 'believe' in any preconceived ideas, he questioned why the apple fell down on the earth and did not go up...this enquiry led to the path-breaking discovery of gravitational force. Auguste Comte also asserted that questioning and verification through empirical investigations should form the basis of knowledge generation in social sciences too. The notion of positivism also claimed that there should be 'methodological uniformity' between natural and social science research. However, practically, it is a very difficult proposition. It is indeed very difficult to have rigorous and 'controlled' experiments in social sciences for both ethical and practical reasons.

Natural science research is largely based on experimentation having repeated observations of natural phenomenon. In social science, the process of observation very often interrupts the social interactions attempting to be observed. It is often non-repeatable experimentation. For instance, in laboratory conditions, you may add molecules of hydrogen gas with oxygen gas to form water. Even if thousand times, this experiment is repeated, you will get the same result. However, while observing human behavior, even the second time you cannot get exactly the same result.

While in natural science research, full objectivity can be maintained; in social science research personal biases and prejudices may distort the data and analysis, thus, subjectivity is more common.

In laboratories of natural science experimentations, achieving 'controlled' conditions is relatively easier. Contrarily, in social science research, laboratory is society or the world at large and researchers have no control over the multifarious factors that influence human behaviours.

In social science research, findings of study are at best generalizations, while in natural science research the results of investigations are best theorized as natural laws.

Most often, the results of natural science research can be verified through our five senses while social phenomena are largely abstract, expressed symbolically and difficult to observe. We can observe behavior but not what goes inside the mind of a human being who is our subject of study.

The data obtained through natural science research are reliable, verifiable and consistent while data gathered in social science research inherently carry significant variations.

Natural science stresses quantitative research and there is no emotional connect between the researcher and the object of research. On the other hand, ‘controlling’ researchers’ subjectivity, prejudices, and emotions in social science research is quite difficult. Studying society and human behavior often makes use of qualitative approach or mix method approach.

In natural science experiments, presence of scientists does not in any way influence the results. Stated differently, presence or absence of researchers does not influence the object of study. In contrast, in social science research, the mere presence of researcher hampers the natural behavior of the subjects under study. This is called “Hawthorne effect”. If you go to a class, say fifth standard children in a school to observe, with your presence, the children would not behave the way they would have in your absence.

Check Your Progress II

Note: Use the space provided for your answer.

- 1) Differentiate between natural and social science research.

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1.4 NEED OF RESEARCH

Research is a highly valued aspect across the world. Its contribution to human civilization is vast and vital. Research in both natural and social science has played a critical role in the progress and development achieved so far. Let us now understand the need and purpose of research.

Research in public health has led to decrease in mortality rates and increase in life expectancy. We have eliminated many dreadful diseases from the world as research has led to an expansion of knowledge and discovery of new medical treatments and cures. Immunization programmes are saving the lives of millions of children; antibiotics and life-saving drugs are discovered, which was not possible a couple of centuries back. Even at the time of Independence of India, life expectancy was merely 35 years, which now is nearly 67 years. We are healthier and living longer than our ancestors, thanks to scientists and researchers working on medicinal advancement and health improvement.

Diagnosis and treatment of all the health ailments like diabetes, blood pressure, cancer, etc., and mental health problems such as schizophrenia, neurosis, bipolar disorders, and such others, by the doctors and psychiatrists are facilitated by research work.

Research has also led to breakthroughs in agriculture, with the introduction of high yield and drought resistant crop varieties. This has helped in achieving self-sufficiency in food security in the country. Buying food grains and other items from foreign countries would have drained scarce economic resources. Projections about the deteriorating effects of climate change are helping in designing of better coping interventions, which is made possible through research.

With advancement of technology, through research, we are able to send satellites in the space that has transformed and fastened the communication system in the entire world. Bridges and roads, airplanes and trains, cars and other vehicles, have eased our lives and within few hours we can travel from one corner of the world to another, which was unthinkable a few generations back. When we look around, all the gadgets and equipments, modern infrastructure, every machine that is making our life easier has been the outcome of research efforts at various levels.

The discoveries and inventions of computers, the Internet, wi-fi, etc., has helped us improving our access to education and developmental facilities.

Even in social science and humanities, research studies help the government and civil society organizations in fact-finding to know the magnitude and intensity of human problems for which services and programmes can be designed and also aid in evaluating their welfare and development programmes. The Planning Commission (now called Niti Ayog) takes up many research and evaluation studies before the actual national level planning process is initiated and Five Year plans are given shape. Research gives us insight to plan interventions for betterment of human life. The social welfare and development programmes and schemes that were designed without thorough research on the needs and problems of target communities, merely based on assumptions, have failed terribly to deliver the desired results.

Research helps us in acquisition and extension of knowledge. And the knowledge is the essential ingredient to all the discoveries and inventions. Research studies lead to theorization which helps in developing better understanding of the world around us.

Research facilitates assessment of a situation or a problem at hand. Proper assessment or diagnosis is critical for effective treatment in any human service profession like Medicine, nursing, counseling and social work. Through research, psychologists are able to understand, explain and predict human behaviours. This helps in determining disorders and their impact on the person and society, thereby giving insight in developing appropriate treatments to improve the individual's quality of life.

Market research has helped business companies to understand needs of the community and consumption habits, make predictions about product usage and formulate appropriate strategies to ensure sales and profits.

Research and Development go hand in hand. You may come across R&D (Research and Development) Division in most of the ministries, departments, educational institutions, defence academies, medical institutions, science and technology, engineering, media and communication studies.

Research is necessary for gathering information before designing any social work intervention. Research provides us all the relevant information about the field before we begin our work. For instance, research would provide us causes of female foeticide in certain villages of Haryana so that accurate intervention can be designed accordingly. Most organizations do research before beginning a project in order to get the basic idea about the things they will need to do for the project. Research also helps in locating the resources, human and material, and profile of the target groups.

1.5 SOCIAL WORK RESEARCH AS A METHOD OF SOCIAL WORK

As mentioned earlier, social work research is a secondary or auxiliary method of social work practice. You may recall – social casework, social group work and community organization are the primary methods of social work and social action, social welfare administration and social work research are the secondary methods.

Social work research may be defined as systematic investigation into the problems in the field of social work. In simple terms, social work research is the act of investigating contributing factors to problems that clients are facing. For instance, we may conduct research on societal causes of homelessness or the factors that are resulting in drug abuse among school children.

Social work research is taken as a sub-set of social research. It is the application of research methods to identify and solve problems that social workers confront in their field practice. Social work research not only stresses on acquisition of knowledge but also application of that knowledge to improve the lives of the people. It employs the methodology of social research and illustrates its applications in social work settings. Since social work is a practice profession, the focus of social work research is more towards utilization of knowledge gained through research for human good. While most of the disciplines of humanities and social sciences use research for better understanding of the area or topic of the study and developing theories after looking at the trends, social work research adopts a utilitarian approach. It means that social work research is focused towards gaining better understanding of causal factors of human sufferings and striving to improve methods and services to ameliorate conditions of misery and pain. Thus, the prime objective of social work research is to search for improving interventions or treatment effectiveness in social work practice. It aims to utilize the findings of the research for betterment of service delivery system.

The scope of social work research is very wide. Some of the topics or areas where research work has been carried out are factors affecting accessibility and affordability of services such as health and social security among the poor and vulnerable population groups (like Dalits, tribals, women, children, aged); efficacy of prison reforms; implications of family disorganization on children; every-day challenges of street and working children; life situations of trafficked women and children; domestic violence, abuse and exploitation, beggary; impact of various government initiatives in the field of social welfare; and many others. We can categorize these areas of research into three broad types –

**Social Research
and Social Work
Research**

- Research studies aimed at better understanding of causal and precipitating factors that increase vulnerabilities and marginalization of various social groups like scheduled castes, scheduled tribes, women, children, elderly, youth, etc.;
- Evaluation and impact studies of several interventions, schemes and programmes by the government and civil society bodies; and
- Research work to gauge effectiveness of social work methods, strategies, skills, values and principles for addressing a range of social problems.

Thus, developing concepts, ethical principles, theories underlying social work methods, skills and values are also the major areas of social work research. The methodologies, tools and techniques of information collection in social work research are the same as social research. However, the focus of research is more on finding best possible interventions to solve social problems.

Social work research provides information that can be taken into consideration by social workers prior to making decisions that affect their clients or agency-programmes. It seeks to understand the relationship of social workers with their clients as a variable to influence desired behavior change. The knowledge gained through research work is useful in appraising the effectiveness of methods and techniques of social work. It enhances efficiency and impact of social work practice. It also offers an opportunity for social workers to make a difference or modification in their practice. Through conducting social work research and utilizing the knowledge gained in the practice, a social worker becomes more dexterous and professionally competent.

Stated differently, social work research attempts to provide knowledge about what interventions or treatments actually help or hinder the attainment of social work goals. In addition, it also helps in searching for answers to problems or difficulties faced by social work practitioners in service delivery system. Additionally, it helps building knowledge-base for social work theory and practice. Social work research helps social workers in becoming more effective practitioners. It gives insight into multi-dimensional nature of social problems and best practices to address those problems. Thus, social work research facilitates in numerous ways the achievement of goals of social work practice.

Check Your Progress III

Note: Use the space provided for your answer.

1) What are the three broad types of research?

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1.6 LET US SUM UP

In this unit we learnt about the meaning of research, which is a scientific process of gathering factual information. Certain basic characteristics of research such as objectivity, verifiability, reliability, prediction, were discussed. The relation and differences between natural and social science research were described. The relevance and need of research in human life was looked into. Lastly, we learnt about social work research as one of the methods of social work practice.

1.7 KEY WORDS

- Research** : Systematic and scientific enquiry to gain knowledge about a natural or social phenomenon.
- Natural Science** : It is a branch of science concerned with the description, prediction, and understanding of natural phenomena, based on observational and empirical evidence.
- Social science research** : Social science research is a systematic investigation into social systems, institutions, phenomena and diverse aspects of human behaviour.

1.8 SUGGESTED READINGS

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