What is Research?

Research is a specified process for achieving specific goals for finding new results and promoting human knowledge.

Science in the general sense refers to the experiences that humans have gained by experimentation or experience and research is the process of achieving these results and observations.

Research originates from human curiosity, or sometimes the need humans feel to seek something. It should be a systematic, understandable, facilitating, innovative, and reconstructive process.

Types of Scientific Research

To define the types of research, different forms and different types are considered. However, the most important division for research is to classify it into two main classes:

Fundamental or Basic Research

Fundamental research is being carried out to present new scientific theories and to extend the field of science in various fields. This type of research aims to foster scientific theories through the discovery of general principles or rules and less attention is given to the application of these abilities in action and reality. This type of research is usually done in laboratories and often on animals. Psychologists are among the scientists who are most interested in doing this kind of research.

Applied Research

Applied research is done to quickly resolve problems and take the necessary steps. This type of research seeks to solve various problems using the findings of fundamental research. In other words, in applied

research, the researcher practices the fundamental research findings in action. This research, unlike fundamental research which has a theoretical nature, is more focused on real phenomena and scientific issues. It is has a non-laboratory-based nature and is done to deal with social, political, etc. realities.

Basic and applied research is also divided into three types of research:

Quantitative research

In quantitative research generally addresses counting and measuring aspects of social life. In quantitative methods, everything is inspired by a series of key and predetermined concepts, such as hypothesis, operational definition, validity, significance, statistics, reliability, deductive analysis, and repeatability. To put it simply, the findings of quantitative research are the result of systematic studies that are achieved by top-down methods.

Example- determination of quality of SARS-CoV-2 antibody in the recovered patients.

Qualitative research

Qualitative research generally addresses argumentative descriptions, discovering the meanings and changes of social actors. This research, above all, describe everyday realities in social life, and, through common sense, along with inductive analyzes and interpretations, make a hypothesis that was unpredictable before doing research, or not predetermined.

Example- present or absent SARS CoV-2 antibody in the recovered patients.

Mixed research

Mixed research mixes quantitative and qualitative methods or paradigm characteristics. The nature of data is a mixture of variables, words, and images. In fact, the purpose of using mixed research methods is not to apply one research instead of the other, but to improve the strengths and reduce or minimize the weaknesses of both types of research in one study.

Other Types of Scientific Research

Exploratory Research

Exploratory research works on the existence or absence of a phenomenon. It also tries to find answers to problems that are not clear. Exploratory research can be conducted in many fields and can, therefore, be considered the most flexible and extensive research method.

Example- development of COVID-19 medicine

Descriptive research

In this type of research, the researcher studies the current state of the subject and describes and interprets the existing conditions and relationships. In other words, descriptive research examines a phenomenon by expressing a more complete definition and contrasting it with other phenomena. The main purpose of this type of research is to give an objective, realistic description of the characteristics of a situation or a topic.

Explanatory research

This type of research seeks to find cause and effect relationships among the various variables. Explanatory research is the study and transfer of complex ideas and information. Analyzing and synthesizing information from various sources to produce text is the most important purpose of

the explanatory method to increase the reader's understanding of the subject and the research problem.

Example- why stressful living results in heart attack.

Longitudinal Research

The longitudinal study refers to a set of observational studies in which the case group is studied over time.

Cross-sectional Research

A cross-sectional study is a type of observational study in which the variables, in terms of prevalence or relevance, are studied only at a given time and in a given community.

Action research

Action research is a type of research conducted by people involved in socio-educational situations whose purpose is to improve the reasoning, justice of their social practices, and to increase their understanding of the situation.