



Question 1. What are the goals of scientific enquiry?

Answer: There exists diversity in types of researches or studies undertaken by psychologists but they all seem to share some common goals of enquiry, which are as follows:-

1. Description
  - This helps to define the phenomena and distinguish it from other phenomena.
  - Description is necessary because any event or behaviour may have many aspects.
  - For example, the idea of entertainment varies from reading books to going to pubs, depending on the individual.
  - The recording of event or behaviour is an integral part of description.
2. Prediction
  - Prediction means forecasting of events.
  - It establishes relationship between two variables.
  - For example, one might say exercising leads to weight loss.
  - In psychology all predictions are made within a certain margin of error i.e. they are not pin-pointed or exact.
3. Explanation
  - Explanation involves knowing the cause or the reason behind the behaviour.
  - It also tries to understand the conditions under which a particular behaviour occurs. For example, a child behaves rudely whenever he is disturbed so his disturbances become the cause of his rude behaviour.
4. Control
  - Control means creating change in the phenomenon or behavior.
  - It refers to making behaviour happen, reduction in it or enhancement in it.
  - The changes produced by psychological treatment in terms of therapy are good examples of control.
5. Application
  - Psychological researches are often conducted to solve various problems faced by the society.
  - Psychology helps in solving problem at individual, organizational or community level.
  - For example, therapies are provided to individuals and counseling is also there to help them.
  - At the organizational level, various psychological concepts like work motivation are used to enhance performance. At the community level, counseling is provided to help people engage in various, helpful and eco-friendly behaviours.

Question 2. Describe the various steps involved in conducting a scientific enquiry.

Answer: Scientific research or study is a clearly defined process that goes through a series of steps—

1. Conceptualising a problem
  - The process begins when a researcher selects a theme

- or topic for study.
  - Then the research questions or problems for the study are formulated.
  - Problem is based on the review of past researches, observations and personal experiences.
  - Problem indicates the relationship between variables. For example, what is the relationship between reward and classroom learning?
  - After formulation of problem, the hypothesis is formed, which is the tentative and testable statement about the relationship between two variables. For example, increased amount of reward will lead to betterment in learning.
2. Collecting data
    - Data collection requires developing a research design or a blueprint of the entire study.
    - Participants of the study are decided, depending on the nature of study, they could be children, adolescents, college students, teachers, workers, elder people etc.
    - Methods of data collection like observation, experimental, correlational method etc are decided.
    - The next decision is taken about the tools to be used, like interview schedule, questionnaire, survey etc.
    - Procedure for data collection is decided i.e. how the tools need to be administered to collect data i.e. individual to collect data i.e. individual or group administration.
    - This is followed by actual data collection.
  3. Drawing conclusions
    - The next step is to analyse data to understand its meaning.
    - The graphical representation of data is made using, bar diagram, pie chart, histogram, mean, median, mode, standard deviation etc.
    - The purpose of analysis is to verify a hypothesis and draw conclusions accordingly.
  4. Revising research conclusions
    - The research begins with the hypothesis.
    - Then researcher sees whether the conclusions support this hypothesis or not.
    - If conclusions support the hypothesis then it is confirmed.
    - If it is not confirmed researcher revises or states an alternative hypothesis/theory and again tests it and the same process continues.

Question 3. Explain the nature of psychological data.

Answer: Data is any information related to mental processes, experiences and behaviour, collected by using various tools.

Psychological data are of different types, such as:-

1. Demographic information  
This information includes personal information related to a particular individual. This includes name, age, gender, education, marital status, residence, caste, religion, income etc, which are personally relevant.
2. Physical information  
This includes information pertaining to physical environment i.e. ecological condition.  
It also includes information about economy, housing conditions, facilities at the home, in the school, transportation etc.
3. Physiological data  
This is related to Biological data.  
For example, height, weight, heart rate, level of fatigue, EEG, reaction time, sleep, blood pressure etc is collected.  
Data related to animal's biological functioning is also

collected.

4. Psychological information

This includes data regarding psychological functioning of individual.

It involves data about intelligence, personality, attitudes, values, emotions, motivation, psychological dysfunctions, consciousness etc.

Thus obtained data is divided into various categories, so that it can be analysed using statistical measures.

Question 4. How do experimental and control group differ? Explain with the help of an example.

Answer:

1. Experimental group: The subjects in study who receive some special treatment in regard to the independent variable.  
In an experiment this group is administered the independent variable (the variable that is manipulated to see its effect on any other variable under study).
2. Control Group: control group is a comparison group.
  - The independent variable is not administered on this group.
  - Subjects in a study who do not receive the special treatment given to the experimental group.

The purpose is to see whether any difference occur in two groups as a result of application of independent variable on experimental group.

For example, suppose, an experiment is carried out to study the effect of presence of others on helpful behaviour, one participant was put in a situation requiring help, say, someone drowning in swimming pool, here five other people were also present, another participant was alone in the emergency situation.

In an experiment except for the experimental manipulation, other conditions are kept constant for both the groups.

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