

Chapter 2 - Methods Of Enquiry In Psychology

Question 1:

What are the goals of scientific enquiry?

Answer:

The goals of scientific enquiry are as follows:

- **Description** – It is very important in a scientific enquiry to describe the behaviour or a phenomenon accurately in order to be able to deal with it.
- **Prediction** – Scientific enquiry aims at the understanding of a particular behaviour in relationship to other behaviours or events. It tries to predict their occurrences under certain conditions with a margin of error.
- **Explanation** – Scientific enquiry is conducted to know the causal factors or determinants of behaviour and the conditions where the behaviour does not occur.
- **Control** – Being able to explain behaviour also leads to the control in behaviour by making changes in its antecedent conditions. The control refers to making a particular behaviour happen, reduce it and enhance it.
- **Application** – Application of a particular behaviour aims at bringing about positive changes in the lives of people by solving their problems in various settings.

Question 2:

Describe the various steps involved in conducting a scientific enquiry.

Answer:

The various steps involved in conducting a scientific enquiry can be described as follows:

(i) Conceptualisation of problem – It is important in a scientific enquiry to narrow down the focus and understand the specific problem. It is done by reviewing past research, personal experience and observations. This is further followed by preparing a hypothesis or a tentative solution of the problem.

(ii) Data collection – The second step involves the preparation of a blueprint of the entire study. It consists of four aspects namely, identifying the participants in the study, methods of data collection, tools to be used in research and procedure for data collection.

(iii) Drawing conclusions – The data are analysed through statistical procedures and represented graphically in the form of pie-chart, bar-diagram, etc. It helps to verify the hypothesis and draw conclusions by putting them into an appropriate context.

(iv) Revising research conclusions – The existing hypothesis is finally confirmed on the basis of revision of data else, a new hypothesis is stated and tested by new data. The research may also be revised by other researchers, hence making it a continuous process.

Question 3:

Explain the nature of psychological data.

Answer:

The nature of psychological data can be explained through the following points:

- **The psychological data are not independent entities:** The physical or social context, the persons involved and the time of the behaviour affects the data. For instance, an individual behaves differently in a group than being alone.
- **The quality and nature of data is affected by the method of data collection:** It is possible that while conducting a personal interview, an individual provides with answers which are different than his/her behaviour as observed by the researcher.
- **Data are facts without any meaning:** This suggests that data do not speak themselves about reality. They only acquire meaning when placed in a context by the researcher.

Question 4:

How do experimental and control groups differ? Explain with the help of an example.

Answer:

Experimental groups differ from control groups as independent variable manipulation occurs in an experimental group whereas it is absent in a control group. For example, in a study conducted by Latane and Darley, there were two experimental groups and one control group. The participants in the study were sent to three types of rooms.

Room 1 in which the participant was alone formed the control group. Room 2 and 3, in which two persons were present with the participant formed experimental groups.

The independent variable, in this study, was the absence or presence of other persons sitting in the room. The remaining factors in the experiment were the same for both kinds of groups. In experimental groups, two persons were present with the real participant while in the control group, participant was alone. Therefore, it can be said that the manipulated variable is absent in control group.

Question 5:

A researcher is studying the relationship between speed of cycling and the presence of people. Formulate a relevant hypothesis and identify the independent and dependent variables.

Answer:

Relationship between the speed of cycling and the presence of people

Hypothesis – As the speed of cycling increases people tend to move away fast.

Field experiment – Two market places

A boy is asked to ride a bicycle with different speeds in the market.

Market 1 – It is observed that when the boy passes through the market street with high speed on the bicycle, people surrounding him will get away quickly in order to protect themselves from getting hit by the cycle.

Market 2 – It is observed that when the boy passes through the market street with normal speed on the bicycle people around him will get away normally and slowly to give him the way as compared to the people of market 1.

Conclusion – When the speed of the cycle is high people move away from it quickly and when the speed of cycle is normal people will move away slowly in comparison.

Revision of research conclusion – The conclusion has matched the hypothesis. Therefore, the hypothesis is correct.

Independent variable – Speed of cycle

Dependent variable – Movement of people

Question 6:

Discuss the strengths and weaknesses of experimental method as a method of enquiry.

Answer:

The strengths and weaknesses of experimental method as a method of enquiry are:

Strengths

- It provides a relatively convincing evidence of a cause-effect relationship between two or more variables.
- The extraneous variables can be eliminated from the laboratory.
- It can minimise the sequence effect with the help of counter-balancing technique.
- It eliminates any potential systematic differences between groups by giving random assignment to groups of participants. This is done to help in framing the conclusion without any assumption.

Weaknesses

- The highly controlled laboratory situation only simulates the conditions of the outer world.
- The results of the experiments cannot be generally applied to real situations, thus field experiments are required in such situations.
- It is not always feasible to study a particular problem experimentally.
- It is difficult to know and control all the relevant variables, particularly in field experiments. Many variables cannot be manipulated in laboratory settings.

Question 7:

Dr. Krishnan is going to observe and record children's play behaviour at a nursery school without attempting to influence or control the behaviour. Which method of research is involved? Explain the process and discuss its merits and demerits.

Answer:

Dr. Krishnan will use non-participant observation method to observe and record children's play behaviour at a nursery school without attempting to influence or control the behaviour. She will sit in the corner of the play school and will observe the behaviour of children, their interaction with other children and teachers, how they play and react to winning and losing. The children will not be aware that they are being observed. Later, she will record her observations in a file. She will analyse and conclude it and then try to match her conclusion with the hypothesis.

Merits of non-participant observation method

The researcher observes the people and their behaviour in a naturalistic situation as it occurs.

Demerits of non-participant observation method

This method is time taking, labour intensive and vulnerable to the researcher's bias. The observations are influenced by the personal values and interpretations of the observer.

Question 8:

Give two examples of the situations where survey method can be used. What are the limitations of this method?

Answer:

The two examples where a survey method can be used are as follows:

- (i) To find out the attitudes of people on polio eradication programme.
- (ii) To record information about the members of a particular population.

The limitations of survey method are as follows:

- People may give inaccurate information because of memory lapses or they do not want the researcher to know their real opinions about a particular issue.
- People sometimes respond in a way they think the researcher wants to hear.

Question 9:

Differentiate between an interview and a questionnaire.

Answer:

The difference between an interview and a questionnaire are:

	Interview		Questionnaire
1.	It is a form of interaction in which questions are asked directly to the respondents.	i.	It is a framework in which questions of scientific enquiry are written.
2.	Questions may vary in their sequence according to the need of the situation.	ii.	Questions are in written in an appropriate sequence which is answered in written by the respondents.
3.	Researcher and respondents are in face-to-face contact.	iii.	Researcher and respondents are not required to be in face-to-face contact.
4.	Researcher can visit the respondents or call them at the office.	iv.	Researcher can go to the places to distribute the questionnaire or questions can be sent through e-mail and post.
5.	The questions are flexible by nature.	v.	The questions are rigid.
6.	Number of questions can be increased or decreased.	vi.	Number of questions cannot be changed.

Question 10:

Explain the characteristics of a standardised test.

Answer:

The characteristics of standardised test are as follows:

- **Validity** – The test has to be devised to measure what it claims to measure in order to be held as valid and usable.
- **Reliability** – This refers to the consistency of scores obtained by an individual on the same test on two different occasions. Test-retest indicates temporal stability and split-half indicates internal consistency of the test.
- **Norms** – The test needs to devise norms or the average performance of the group. It helps in comparison and interpretation of an individual's performance in relation to the overall standards of the group.

Question 11:

Describe the limitations of psychological enquiry.

Answer:

The limitations of psychological enquiry are as follows:

- **Lack of true zero point** – Psychological measurements do not have a zero point. The scores that are assigned to individuals in psychological studies are not absolute in nature but have relative value.
- **Relative nature of psychological tools** – Psychological tests need to be developed, modified and adapted according to the context of study. For example, test developed for urban children is not suitable and cannot be applied on tribal children.
- **Subjective interpretation of qualitative data** – The qualitative data are largely subjective and interpretations may vary from one individual to the other.

Question 12:

What are the ethical guidelines that a psychologist needs to follow while conducting a psychological enquiry?

Answer:

The following are the ethical guidelines that a psychologist needs to follow while conducting a psychological enquiry:

- **Voluntary Participation** – The person on whom the study has to be conducted has the choice whether to participate or not in the study.
- **Informed Consent** – The participants should be informed about the nature of the study and its impact upon them before it starts.
- **Debriefing** – The participants have to be provided with information to complete their understanding of the research and enable them to leave the place or laboratory in the same mental and physical state as before the test was conducted.
- **Sharing the results** – The researcher has to share the results of the study with the participants to fulfil their expectations. The opinion of participants about the results also provides new insights to the researcher.
- **Confidentiality of Data Source** – The researcher has to make sure that the information given by the participants is kept confidential and not shared with other interested parties.

Henceforth, it is necessary for the researcher to ensure certain ethics and principles in order to respect an individual's privacy and protect him/her from any harm caused by the research.