Observation

Observations have contributed to some of the most significant scientific discoveries in human history. In On the Origin of Species, Charles Darwin describes his theory of evolution based on his observations of animals and marine life at the Galapagos Islands. As a primary research method, observation is used by social scientists, natural scientists, engineers, computer scientists, educational researchers, and many others.Based on the subject being researched, one makes varying types of observations.

To determine what kind of improvements need to be made, traffic or parking patterns on a campus can be observed. A person can observe clouds, plants or other natural phenomena, though in the latter case, one might have to ask permission in order not to infringe on anyoneâ€™s privacy. An observation may be defined as â€˜the act of monitoring a particular situation and recording pertinent eventsâ€™. In controlled and uncontrolled situations, it measures the overt behavior of an individual.

Types of Observation

Observation can be of the following types:

1) Participant observation:

Participant observation takes place when the observer becomes more or less one of the group members and participates in some of the groupâ€™s activities. Observers may play several roles while participating in observation, such as being a visitor, an attentive listener, an eager learner, or as a participant observer.

FAQ,

Which of the following might be an advantage of participant observation research? A) The researcher has considerable control over the conditions of the research.

B) The researcher can uncover what people do rather than simply what they say they do.

C) The researcher maintains objectivity by staying in the â€œwhite coatâ€• role.

D) It is a useful method for studying large and diverse populations.

2) Non-participant observation:

The non-participant observer observes from a position where his/her presence is not noticed by the participants. Individuals and groups may be closely observed by him/her based on their behavior or characteristics. The observer can see the subject through a one-way vision screen, but cannot see the subject. Other

categories of observation include:

a) Natural observation: Natural observation involves observing the behavior of the observed in a normal setting, without any attempt to change the observedâ€™s behavior. Natural observation can be used to improve the collection of information.

FAQ,

Which of the following is not an observation or inference on which natural selection is based? A) There is heritable variation among individuals

B) Poorly adapted individuals never produce offspring

C) Species produce more offspring than the environment can support

D)Individuals whose characteristics are best suited to the environment generally leave more offspring than those whose characteristics are less well suited

E) Only a fraction of an individuals offspring may survive

b) Subjective and objective observation: There are two main components to every observation, the subject and the object. A subject is someone who observes an activity, whereas an object is something that is observed. The term â€œsubjective observationâ€• refers to observations made by an individual within the scope of their immediate experience, whereas â€œobjective observationâ€• describes observations made by a separate entity apart from the object being observed. Retrospection is another term for objective observation.

c) Direct and indirect observation: Using the direct method of observation, one can see how the observer is physically present, in what type of situation he/she is present, and then observe what happens. Indirect methods of observation involve studies of mechanical or electronic recording methods. Compared to indirect methods, direct observation is relatively straightforward.

d) Structured and unstructured observation: Structured observation follows a plan and involves specific details about the units to be observed and about the data that ought to be recorded. The observations that will be made and the various aspects that will be noted or recorded are determined well in advance. In such observations, special instruments are used to collect structured data for data collection. Unstructured observation, on the other hand, is diametrically opposed to structured observation. An observer can record what he/she believes to be correct and in opposition to their point of study in such observations. Exploratory research is well suited for this type of observational approach.

e) Controlled and non-controlled observation: In controlled observations, some external forces are used to influence the observation. Controlled observations rarely improve the precision of research results. The effectiveness of these observations will largely depend on whether they are used in conjunction with mechanical synchronized devices, film recordings, and the like. Non-controlled observations are made in the natural environment and are not influenced by external forces, unlike controlled observations.

Recording Techniques of Observation

Researchers can use a variety of techniques to study and document a subjectâ€™s behavior. Data collection methods are accurate, but they may have different applications. Certain methods facilitate detailed descriptions of behavior, while others facilitate capturing behavior quickly with a bare minimum of description.

a) Anecdotal records: Anecdotal records are observations jotted down in a notebook. It is implied from these sentences that the subject is engaged in something at a particular time. Anecdotal records are created only when observable and countable behaviors are recorded.

b) Narrative description: The narrative description is a formal method of observing behavior, also called a specimen record or running behavior record. According to this technique, one must record continuously and as precisely as possible, for instance, when a person is alone or when interacting with someone else. Using the same methodology as anecdotal records, its documentation was definitely more thorough. A researcher examines the context, the behaviour patterns, and the order in which they occur. This technique seeks to gain an objective description of a subjectâ€™s behavior that is free from conjecture, analysis, or assessment.

c) Checklists: The checklist is usually a standard form that lists specific skills or behaviors based on standards or is specifically compiled by the researcher for a particular study.

d) Interviewing: In this technique, researchers identify the feelings and beliefs of subjects that are undetectable through simple observation. During the interview process, everything said by the subject must be recorded exactly as it is. An interviewer must not edit the interview subscript in any way.

e) Time sampling: The method differs from others in two ways: It monitors and records a few carefully selected samples of the subjectâ€™s behavior, and it does so only during prearranged periods of time. During the specified period, behavior patterns are observed and recorded. In this way, representative examples of behavior can be gathered.

f) Frequency counts: Researchers may find it more interesting to examine the frequency of an event or a trend, such as how many times an individual starts a conversation with a colleague or how often a consumer buys a specific product. A researcher needs to keep track of the frequency and duration of the particular behavior in order to obtain this information. This is usually accomplished by simply marking an occurrence on a chart every time the behavior occurs.

g) Event sampling: Using this technique, you will observe specific behaviors or events in a subjectâ€™s behavior. But the frequency of recording or the duration of recording are not taken into account.

Advantages of Observation

The advantages of observation are as follows:

Participant observation allows the observer to participate in the group, letting him access a vast amount of information.

As a result of the observerâ€™s observations, context is provided to the behavior displayed within the group, which is far superior to the information obtained through a questionnaire and interview.

By observing a group, an individual gains insight into what the members actually do instead of what they say, which is considered more credible information about the behaviour of the members of the group.

Participant observation, the observation method used by ethnographers, requires a great deal of time. By doing so, the researcher is able to uncover varied and deep rooted aspects relating to the research question.

Observation is far more flexible than other methods of gathering data because it is not rigidly based on predefined questions.

Disadvantages of Observation

Having more open-mindedness is a freedom for the researcher. Observation has the following disadvantages:

Validity of observations is difficult to establish.

There are many items of observation that cannot be defined.

It involves the issue of subjectivity.

Observation may overestimate the significance of aspects of limited significance simply because they are easy to record, accurate, and objective.

It is possible for observers to focus on different aspects of a situation while observing the same event. Physical circumstances cannot be controlled by the observers.

Observers are not allowed to watch certain situations, and are expected to report accurate observations.

The event classification may not be feasible for all of the events observed.

The process of observation is slow and laborious.

There may not be a great deal of agreement between the observers.

Data to be observed may be too large to handle.

There may be difficulty finding competent observers for observation.

Observation is expensive. It requires a lot of expenses related to travelling, staying in the places where the events are occurring, and purchasing sophisticated equipment to help the observers.

Characteristics of Observation for Research

The characteristics of observation for research are as follows:

It is important to be specific about the observation schedule.

Systematic steps should be taken.

Quantitative data should be used.

The event should be recorded immediately.

The decision should be made by experts.

It is important to create a scientific schedule. These findings should be substantiated and checked.

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