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Observation Method: A Review Study

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Abstract

Observation method is described as a method to observe and describe the behavior of a subject and it involves the basic technique of simply watching the phenomena until some hunch or insight is gained. We are almost constantly engaged in observation. "It is our basic method of obtaining information about the world around us". Man's eye has been a basic tool for observation for a long time. Now-a-days, a number of tools like camera, video-camera, tape-recorder etc. Are also being employed by researchers. They are also utilizing 'laboratory conditions' to study certain aspects. The term includes several types, techniques, and approaches, which may be difficult to compare in terms of enactment and anticipated results, the choice must be adapted to the research problem and the scientific context. As a matter of fact, observation may be regarded as the basis of everyday social life for most people; we are diligent observers of behaviors and of the material surroundings. "We watch, evaluate, draw conclusions, and make comments on interactions and relations". However, observation raised to the rank of a *scientific method* should be carried out systematically, purposefully, and on scientific grounds—even if curiosity and fascination may still be its very important components. This Paper discusses the meaning and purpose of the observation method of data collection. It also dwells on how to plan for and the different types of observation. The advantages and disadvantages are also stated.

Keywords: Observation Methods, Observation Research, Observation Types, Data Collection Method, Research Method

1. INTRODUCTION

Observation method is "a data collection method in which a person (usually trained) observes subjects of phenomena and records information about characteristics of the phenomena". {Sproull, 1988} Science begins with observation and also uses observation for final validation of findings. Observation is used quite often in social sciences and is supplemented by interviews and study of records. Observation is considered as a classic method of scientific inquiry. Observation involves the investigation watching the subjects or research situation. Observation method of collecting the data is one of the oldest and this technique is used by

both the scientists and social scientists. The term observation sounds to be simple and gives an impression that the collection of data through this method is easy. But it is not true in scientific investigation. There is also a criticism that this method is unreliable but by doing it more scientifically, limitations could be overcome. This method of data collection is one of the oldest methods and it can be treated as scientific only when the criteria such as objectivity, free from bias, reliability and systematization is followed. So, we can say that observe means “to watch attentively in a scientific manner”. In an observational study, the current status of phenomenon is determined not by asking but by observing (Ronald R Powell, 1997).

2. DEFINITION OF OBSERVATION

Definitions of observation per se are difficult to find in the literature. Gorman and Clayton define observation studies as those that “involve the systematic recording of observable phenomena or behavior in a natural setting” (2005, p. 40). Other authors define observation within the broader context of ethnography or the narrower one of participation observation. What is consistent in the definitions, however, is the need to study and understand people within their natural environment. Spradley wrote that participation observation “leads to an ethnographic description” (1980, p. vi). He defined ethnography as the “work of describing a culture” with the central aim of understanding “another way of life from the native point of view” (p. 3). Chatman defined ethnography as a method that allows the researcher to get an insider’s view through observation and participation “in social settings that reveal reality as lived by members of those settings” (1992, p. 3). Becker and Geer defined participant observation as either a covert or overt activity “in which the observer participates in the daily life of the people under study observing things that happen, listening to what is said, and questioning people, over some length of time” (1970, p. 133). To observe people in their natural settings, there are a variety of roles researchers can adopt. The roles and how they have changed over time are described below. Where possible, examples of LIS studies are included.

3. OBSERVATION: PLANNING AND PROCESS

The observer should examine the following questions well in advance to enable to have effective plan of action. They are:

- ✚ What should be observed
- ✚ How the observation should be recorded
- ✚ What type of tools and techniques need to be used
- ✚ How to ensure accuracy of observation and
- ✚ What type of relationship should be there between the observers and observed how the desired relationship should be established?

The planners need to have comprehensive knowledge of the problem and techniques of investigation. They also need to have experience, on the basis of which the plans could be devised. The planning includes forecasting the situation and preparation of step-by-step procedure. Each step has to be logically arranged to get the factual data. Proper planning is essential to get the factual data through this method (egyankosh, p. 168-169).

The following are the steps used for planning:

- ✚ It is essential to examine the relevance of the observation method for collecting data for the study of research problem.
- ✚ If observation method is found suitable, it is essential to identify and analyses the type of data the researcher is looking for through observation.
- ✚ The questions are to be identified, for which the answer / data has to be collected from the observation.
- ✚ The samples for observation have to be identified.
- ✚ The researcher has to examine the conditions, events and activities, where the observation is being made.
- ✚ On the basis of the above, the researcher has to plan how to observe, what tools to be used, what will be the place of the researcher in the specific situation and how can the process of observation be initiated. While selecting a tool or technique the researcher should weigh their pros and cons.
- ✚ While observing, the researcher finds many variables and it is essential to observe and collect the data from relevant variables only. It is also essential to state the operational definition for each variable chosen for observation.
- ✚ It will be better to decide the timings for observation, recording procedure, and identify subjects/items to be observed. It may be worth to work out these things in detail.
- ✚ There may be a situation, where number of observers are being arranged for Observation Method the purpose of observation. All of them may not be trained nor equally knowledgeable for the chosen purpose. Therefore, it is essential to train them properly both theoretically and practically.
- ✚ It is also necessary to consider seriously about the validity of the observation. Therefore, the researcher may need to take measures to validate the data.

(Observation involves three processes, Namely)

Sensation

- Sensation reports facts as observed. Using sense organs (like eyes, ears, nose etc.) This process depends upon physical alertness of the observer.

Attention

- Attention or concentration which is deeply related to will-power. Training and experience enable the observer to form a habit which can go a long way to archive concentration required for scientific observation.

Perception

- Perception comes last and is concerned with interpretation of sensory reports. This enables the mind of the observer to recognize the facts.

4. ROLES OF RESEARCHER (OBSERVER)

According to Chatman, (1984) Roles have been defined as “the characteristic posture[s] researchers assume in their relationship” with the people whom they are studying (hereafter referred to as “insiders”) (p. 429). In his article on roles in field observations, Gold (1958) “credited, and expanded on, Buford Junker’s typology of four roles researchers can play in their efforts to study and develop relationships with insiders, including complete observer, observer-as-participant, participant-as-observer, and complete participant” (p. 217). More recently others, such as Spradley (1980) and Adler and Adler (1994), have proposed slightly different roles or used different terms than did Gold (p. 217) as will be discussed below.

While Gorman and Clayton described Gold’s four roles as “a range of flexible positions in a continuum of participatory involvement” (2005, p. 106), not everyone has to start as a complete observer. The adopted role depends on the problem to be studied, on the insiders’ willingness to be studied, and on the researcher’s prior knowledge of or involvement in the insiders’ world. Going into a new environment may require the researcher to adopt the role of complete observer, whereas studying a group in which she/he is already a member allows the researcher to adopt the complete participant role. What is important is that the researcher assumes an appropriate, fluid role—one that allows her/him to observe intimately the everyday life of the insiders (Chatman, 1984; Carey, McKechnie, & McKenzie, 2001).

Observations (Morrison 1993: 80) enable the researcher to gather data on:

- The physical setting (e.g., the physical environment and its organization)
- The human setting (e.g., the organization of people, the characteristics and make-up of the groups or individuals being observed, for instance, gender, class)
- The interactional setting (e.g., the interactions that are taking place, formal, informal, planned, unplanned, verbal, non-verbal etc.)
- The Programme setting (e.g., the resources and their organization, pedagogic styles, curricula and their organization).

Flick (1998: 137) suggests that observation has to be considered along five dimensions:

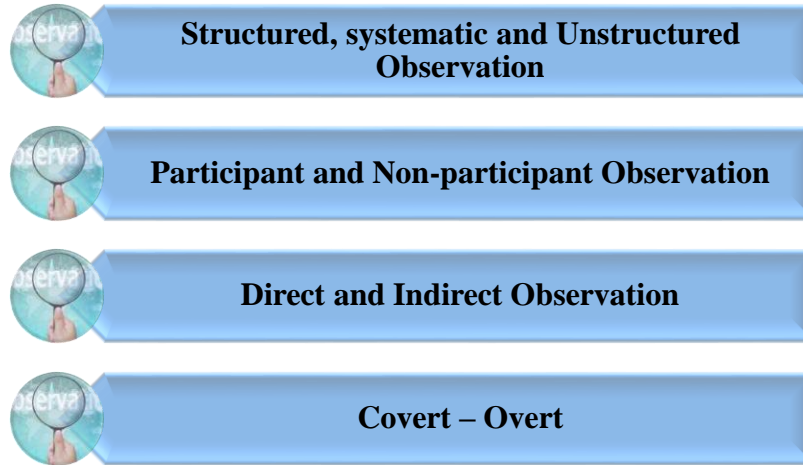
- Structured, systematic and quantitative observation versus unstructured and unsystematic and qualitative observation
- Participant observation versus non-participant observation
- Overt versus covert observation
- Observation in natural settings versus observation in unnatural, artificial settings (e.g., a ‘laboratory’ or contrived situation) O self-observation versus observation of others

Cooper and Schindler (2001: 375) suggest that observation can be considered along three dimensions:

- Whether the observation is direct or indirect: the former requiring the presence of the observer, the latter requiring recording devices (e.g., video cameras)

- Whether the presence of the observer is known or unknown (overt or covert research), whether the researcher is concealed (e.g., through a one-way mirror or hidden camera) or partially concealed, i.e., the researcher is seen but not known to be a researcher (e.g., the researcher takes up a visible role in the school)
- The role taken by the observer (participant to non-participant observation, discussed below).

We address these throughout this article:



A. STRUCTURED, SYSTEMATIC AND UNSTRUCTURED OBSERVATION

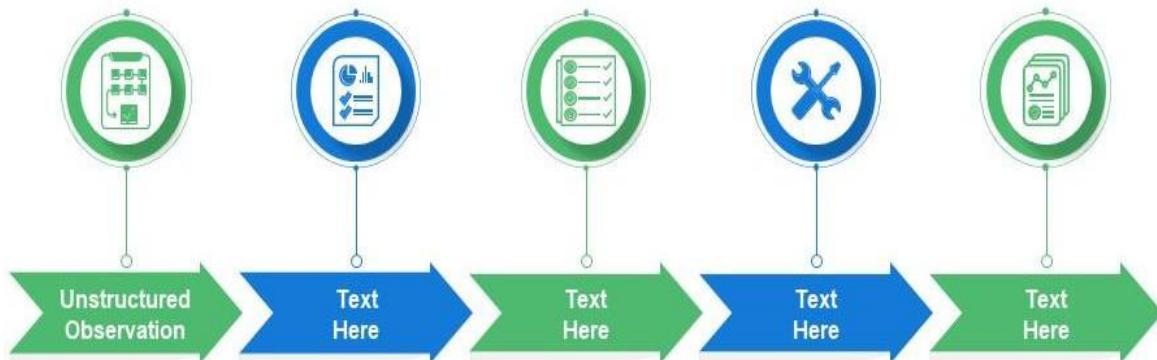
✚ Structure Observation: - It is often used to provide systematic description or to test casual hypotheses. It can be applied in field studies and laboratory type settings where focus being on certain aspects of behaviors. The most important step in structure observation is the development of observational categories.

STRUCTURED OBSERVATION

Student to Student	/	/	/	/														
Student to Students					/	/												
Student to Teacher												/	/	/				
Students to Teacher							/	/	/	/	/							
Teacher to Student																		
Teacher to Students																		
Student to Self																		
Task in hand					✓	✓								✓	✓	✓		
Previous task							✓	✓	✓	✓	✓							
Future task																		
Non-task	✓	✓	✓	✓														

(Source - <https://slideplayer.com/slide/8209112/>, accessed on 10.02.2023)

✚ **Unstructured Observations:** - A researcher does not have a predetermined set of categories of behaviors. Thus, this technique is relatively flexible and extremely useful in exploratory research. In this type of observation, the subject to be studied are the type of behavior, the setting, duration and frequency of the behavior.



(Source - https://www.slideteam.net/business_powerpoint_diagrams/unstructured-observation-ppt-powerpoint-presentation-ideas-graphic-images-cpb.html, accessed on 10.02.2023)

B. PARTICIPANT AND NON-PARTICIPANT OBSERVATION

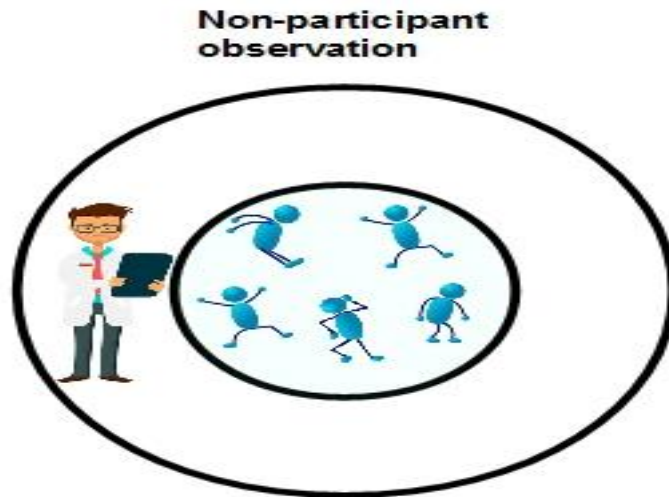
✚ **Participant Observation:** - Participant observation is the one in which the observer becomes a part of the group under observation. He shares the situation as an attentive listener, recording and interpreting the behavior of the group. He gets a feel of the activities of the group like any member. Participant observation has an important role to play in case studies.

PARTICIPANT OBSERVATION



(Source - <https://www.questionpro.com/blog/participant-observation/>, accessed on 10.02.2023)

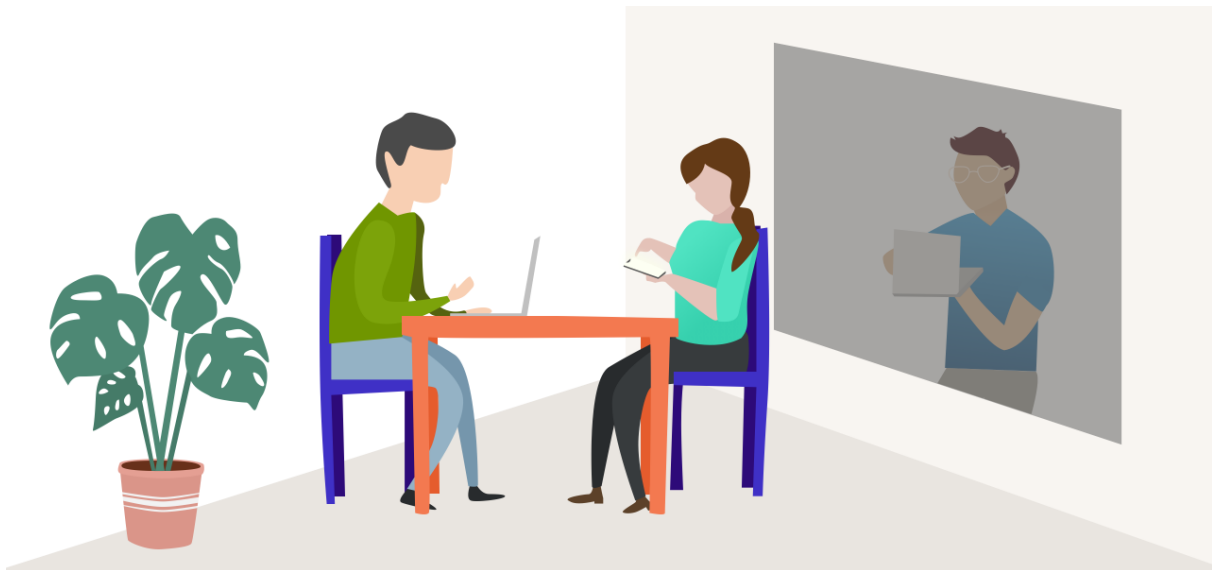
- ✚ **Non-participant Observation:** - In non-participant observation, the observer takes a vantage position, from where he can observe in detail the behavior of the subjects, with least disturbance to group. When the observer is observing in such manner that his presence may be unknown to the people he is observing, such observation is described as disguised observation.



(Source - <https://www.achieveriasclasses.com/participant-observation-key-points-to-remember/>, accessed on 10.02.2023)

C. DIRECT AND INDIRECT OBSERVATION

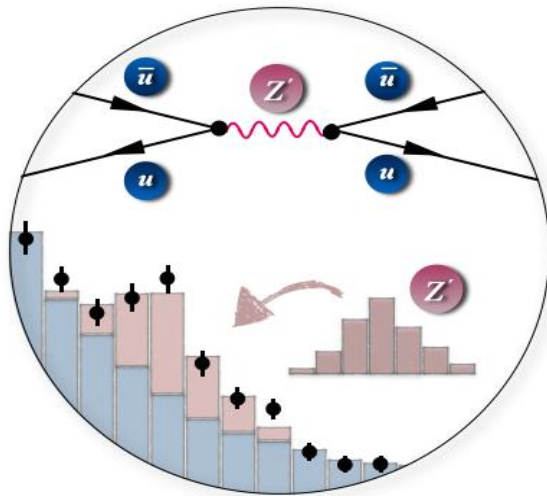
- ✚ **Direct observation:** - means that a researcher has a direct view. The observer merely records what occurs. No attempt is being to control / manipulate the situation.



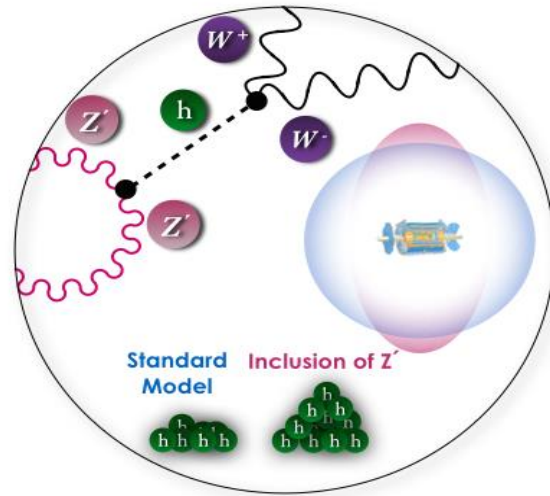
(Source - <https://uxdesign.cc/direct-observation-what-when-and-how-f09d9f2c315c>, accessed on 10.02.2023)

✚ **Indirect observation:** - means indirect view, involving use of a camera, tape-recorder, or video-camera for recording. Indirect observation is being made where either the subject is dead or refuses to take part in the study. The observer may observe the physical traces left behind and make conclusions about the subject. **For Example** - the police may visit the site of the crime and look for traces left by the criminal for further investigation or study.

Direct Observation.



Indirect Observation.



(Source - <http://www.thomasgmccarthy.com/an-introduction-to-collider-physics-x>, accessed on 10.02.2023)

D. COVERT – OVERT OBSERVATION

✚ **Covert observation:** - In covert observation, the subjects / group being observed are not aware that they are being observed. Participant observation could be covert observation as the observer is a participant in the group and their activities.



(Source - <https://slidetodoc.com/evaluate-participant-nonparticipant-naturalistic-overt-and-covert-observation/>, accessed on 10.02.2023)

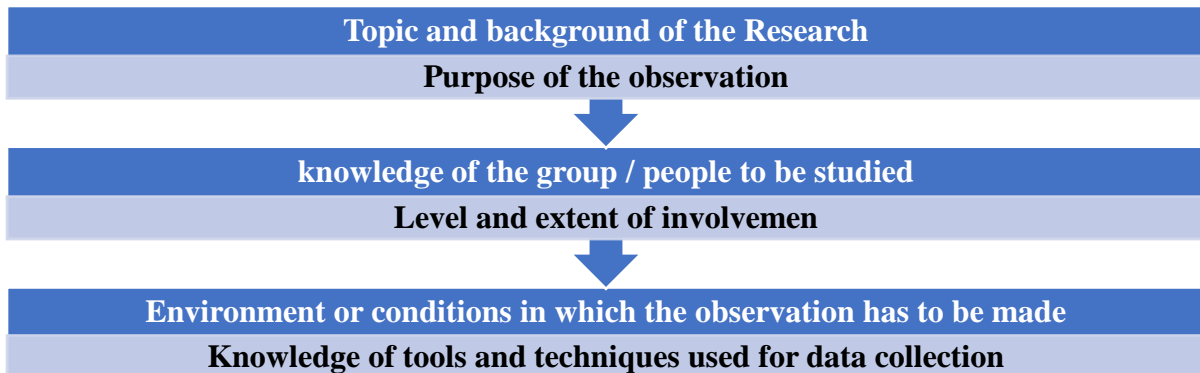
✚ **Overt observation:** - In overt observation, the subjects are aware that they are being observed. Once the subjects know that they are being observed, there is every possibility of change in their behavior. We can take an **Example** of a police man's behavior with the accused/ criminals, while he knows that he is being observed. He will be polite and may not use abusive language.



(Source - <https://study.com/academy/lesson/participant-observation-definition-and-examples.html>, accessed on 10.02.2023)

5. OBSERVER SKILLS AND COMPETENCY REQUIRED

The observer needs skills and training to observe and record the data. It is essential to have the knowledge of different types of tools used to record the data. This is mainly due to the reason that the observer is totally relied upon for amount and quality of information. He may collect the data single handedly. Therefore, he may need a background, such as knowledge of the subject, experience, adaptability, flexibility, ability to mix with others. Further, he should not mix his ideology with observation data and should be free from bias. If necessary, the observers may be given training to enable them to concentrate on the subject of study. The observer needs to know (Source - <https://www.egyankosh.ac.in/bitstream/123456789/11231/1/Unit-10.pdf>)



6. OBSERVATION: ADVANTAGES AND DISADVANTAGES

ADVANTAGES	DISADVANTAGES
<ul style="list-style-type: none">• It is direct and helps to study the behavior as it appears / occurs (collected in natural environment). One need not ask anyone about the behavior but can-do self-watching and collect the data.• The data collected in a natural environment or situations is reliable.• The data may be much more accurate as it is collected out of intimate and informal relationship.• It is one of the best methods which can be adopted in a situation where people are unable to state meaningfully, e.g., studies about the children, tribal, animals etc.• It helps to study the whole event and therefore, may provide the opportunity to study the insights or all aspects.• It is easy to observe in disguising rather than disguised questioning.• It helps to collect when the respondents are unwilling to cooperate for giving information.• It is expensive but it is also possible to collect the data on emotional reactions.• It helps to analyses the contextual background also.	<ul style="list-style-type: none">• This method is not useful to study the past events.• It will not help to study the opinions. It may be difficult to structure the situation.• Another limitation is stability of the conditions. Observation is difficult under unstable conditions.• The collected data may not be possible to quantify.• Most difficult could be how to get entry in the group being observed, i.e., how to become participant?• It may not be possible to study or observe everything simultaneously, and the study could be limited.• The internal attitudes and opinions are difficult to study• The sample may have to be limited; unlike the questionnaire- where in number of respondents from different places is difficult to study.• It is a slow, time consuming and expensive process• This method is difficult to apply in large social settings and there is no set procedure for observation.• The observer’s ability, consistency, knowledge, bias and familiarity influence the data collected.

Source - <https://www.egyankosh.ac.in/bitstream/123456789/11231/1/Unit-10.pdf>,
accessed on 10.02.2023)

7. ETHICAL ISSUES IN OBSERVATION (SOME CAUTIONARY COMMENTS)

Many observation situations carry the risk of bias (e.g., Wilkinson 2000: 228; Moyles 2002: 179; Robson 2002: 324–5; Shaughnessy et al. 2003: 116–17), for example by:

- a) Selective attention of the observer: what we see is a function of where we look, what

we look at, how we look, when we look, what we think we see, whom we look at, what is in our minds at the time of observation; what are our own interests and experiences.

- b) Reactivity: participants may change their behavior if they know that they are being observed, e.g., they may try harder in class, they may feel more anxious, they may behave much better or much worse than normal, they may behave in ways in which they think the researcher wishes or in ways for which the researcher tacitly signals approval: ‘demand characteristics’ (Shaughnessy et al. 2003: 113).
- c) Attention deficit: what if the observer is distracted, or looks away and misses an event?
- d) Validity of constructs: decisions have to take on what counts as valid evidence for a judgement. For example, is a smile a relaxed smile, a nervous smile, a friendly smile, a hostile smile? Does looking at a person’s non-verbal gestures count as a valid indicator of interaction? Are the labels and indicators used to describe the behavior of interest valid indicators of that behavior?
- e) Selective data entry: what we record is sometimes affected by our personal judgement rather than the phenomenon itself; we sometimes interpret the situation and then record our interpretation rather than the phenomenon.
- f) Selective memory: if we write up our observations after the event our memory neglects and selects data, sometimes overlooking the need to record the contextual details of the observation; notes should be written either during or immediately after the observation.
- g) Interpersonal matters and counter-transference: our interpretations are affected by our judgements and preferences – what we like and what we don’t like about people and their behavior, together with the relationships that we may have developed with those being observed and the context of the situation; researchers have to deliberately distance themselves from the situation and address reflexivity.
- h) Expectancy effects: the observer knows the hypotheses to be tested, or the findings of similar studies, or has expectations of finding certain behaviors, and these may influence her/his observations.
- i) Decisions on how to record: the same person in a group under observation may be demonstrating the behavior repeatedly, but nobody else in the group may be demonstrating that behavior: there is a need to record how many different people show the behavior.
- j) Number of observers: different observers of the same situation may be looking in different directions, and so there may be inconsistency in the results. Therefore, there is a need for training, for consistency, for clear definition of what constitutes the behavior, of entry/judgement, and for kinds of recording.
- k) The problem of inference: observations can record only what happens, and it may be dangerous, without any other evidence, e.g., triangulation to infer the reasons, intentions and causes and purposes that lie behind actors’ behaviors. One cannot always judge intention from observation: for example, a child may intend to be friendly, but it may be construed by an inexperienced observer as selfishness; a teacher may wish to be helpful but the researcher may interpret it as threatening. It is dangerous to infer a stimulus from a response, an intention from an observation.

According to Dunkin, M.J. and Biddle, B.J. (1974) “The issues here concern validity and reliability. With regard to the validity of the observation, researchers have to ensure that the indicators of the construct under investigation are fair and operationalized” (p. 396). for example, so that there is agreement on what counts as constituting qualities such as ‘friendly’, ‘happy’, ‘aggressive’, ‘sociable’ and ‘unapproachable’. The matter of what to observe is problematic. For example, do you focus only on certain people rather than the whole group, on certain events and at certain times rather than others, on molar or molecular units? Do you provide a close-grained, close-up observation or a holistic, wider-focused and wide-ranging observation, i.e., do you use a zoom lens and obtain high definition of a limited scope, or a wide-angle lens and obtain a full field but lacking in detail, or somewhere between the two? Expectancy effects can be overcome by ensuring that the observers do not know the purpose of the research, the ‘double-blind’ approach.

8. APPLICATION IN LIBRARIES AND INFORMATION CENTERS

Observation method is used in libraries, the data collected is analyzed, and the outcome is used for improvement of the library activities and services. Some of the sample observations are listed below:

- ✚ How do the users approach the library for identification of relevant books? Do they use catalogue or directly go to the shelf? What is the outcome of directly going to shelves? In the process, how much time is lost by them?
- ✚ What is the approach of the users in identifying the relevant reference books or information?
- ✚ How far the furniture (especially chairs, tables etc.) are comfortable to the users?
- ✚ The work standards can be prepared with the observation method. For example, how many labels can be pasted in an hour?
- ✚ It is also possible to observe the accessibility of the documents / information and the satisfaction levels of the users.
- ✚ Behavior of the users in use of various types of documents such as periodicals, AV materials etc. can be observed.

Lot of research studies on information seeking behavior is being made by the researchers in LIS. Probably, if they use this method the results could be more accurate. Further, the data collected from observation may be combined with the data collected through other methods / sources and the conclusions be made, which can be used for improvement of the library (Source - <https://www.egyankosh.ac.in/bitstream/123456789/11231/1/Unit-10.pdf>)

9. CONCLUSION

According to Bush and Harter, (1980) “Observation method is frequently considered very valuable in research. Thus, it is widely recognized as a prime requisite of research in general and descriptive research in particular” (p. 103). Among all the methods, observation method is the oldest method which have been used as a technique of investigation both in the natural and social scientists, but it cannot be used to gain information about a person's perception, belief, feelings, emotions, motivations, anticipations, future plans, etc. According to Eminent Researcher Dunkin, M.J. and Biddle, B.J. (1974) “In this respect it has been suggested that

additional methods of gathering data might be employed, to provide corroboration and triangulation, in short, to ensure that reliable inferences are derived from reliable data” (p. 396).

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