

UNIT - 8

DIAGNOSTIC METHODS : QUANTITATIVE - QUALITATIVE

OBJECTIVES

After going through the unit, you will be able to :

- understand structured observational methods - their basic properties and when to use them
- differentiate diagnostic methods employing observation
- follow the processes involved in individual interview
- describe process involved in group interview
- explain characteristics of an interview Schedule/Questionnaire
- appreciate the importance of survey feedback
- use projective methods
- collect data using Archival/unobtrusive measures
- undertake further investigation of content analysis.

STRUCTURE

- 8.1 Introduction
 - 8.2 Data Collection by Structural Observational Methods
 - 8.2.1 Some basic properties of observational methods
 - 8.2.2 When to use observational methods
 - 8.2.3 What is observed
 - 8.2.4 Diagnostic methods employing observational methods
 - 8.3 Individual and group interviews
 - 8.3.1 Individual interviews
 - 8.3.2 Group interviews
 - 8.4 Survey Feedback
 - 8.5 Projective Methods, Archival Methods/Unobtrusive Measures and Content Analysis
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8.5.1 Projective Methods

8.5.2 Archival Methods / Unobtrusive measures

8.5.3 Content Analysis

8.6 Conclusion

8.7 Self-Assessment Test / Questions

8.8 Further Readings

8.1 INTRODUCTION

After exploring the conceptual issues in diagnosis, one would like to familiarize oneself with specific diagnostic methods. The methods can be used in various names. But at their core only a few substantive processes of obtaining data and sense of what is happening occur.

Schein (1988) observes "Basically, the consultant has only three different methods by which he can gather data : 1. Direct observation 2. Individual or group interviews 3. Questionnaires or some other survey instrument to be filled out. (P. 148 - 149)". Similarly, clear demarcation between Qualitative and Quantitative methods is difficult to make as many qualitative methods can be converted into a quantitative method ultimately. However, from the thrusts in the Data Collection process, the initial quantitative as well as qualitative nature of the method can be understood. Brief outlines of some of the major techniques are presented below.

8.2 DATA COLLECTION BY STRUCTURAL OBSERVATIONAL METHOD

Everyone observes people, things and events. Structured observational method means planned, methodical and accurate watching with the subject observed, as far as possible, *in situ*, that is in its normal setting. Take for example, a top management meeting from which a consultant wants to generate data by observational method. He takes the role of an observer. What he hears and sees in the meeting can be converted into data if what he hears and sees can be accurately and systematically recorded according to a plan. He may decide to collect data about interpersonal communication in work situation amongst the top executives, or the decision making process or the influence process. There can be a wide range of behaviour processes.

Whatever he wants to observe, say for example communication, he should have a plan and a distinct method. He decides to record for the entire duration of the meeting, (he has a choice of random sampling of time or observing at a fixed regular interval) who speaks after whom (he has a choice of recording who speaks to whom) on a sheet of paper in which the names of members in the meeting are written. He draws a line between the first speaker and the second, between the second and the third and so on in almost a continuous flow of lines. He can change the sheet of paper at intervals of 30 minutes. He thus obtains the graphic presentation of the communication process for every half hour period. He can combine the graphs on a new graph to obtain the picture of the entire meeting. He has an option of another method of observation. He takes a sheet of paper, writes down the names or identifying marks of the members in a column and the rows are divided into periods of 30 minutes. In each cell he enters the tally mark as a person speaks. He can obtain thus the speaking frequency of different members.

The observational method has been of wide use in almost all branches of science and technology. One may recall the classical incident of observations made by Mendel, the originator of the modern science of genetics. He observed the flowers of peas. He discovered the pattern in the colours developed in the flowers and that formed the basis of his theory of genetic inheritance. This observation was later replicated in numerous carefully designed experiments with many more variables included. From a microscope to a telescope, from human perception and sensation to space satellites - science has built innumerable instruments for observation. It is needless to reiterate that observational methods are fundamental to the medical profession. Having considered the importance and the range of usage of this method it may be necessary to articulate some of the properties and characteristics of this method.

8.2.1 Some Basic Properties of Observational Methods

Earlier it was stated that observation is planned, methodical, accurate watching. Some of the properties that make it so are indicated below :

- 1) What is being observed must be observable. For example, behaviours are observable; intentions are not, they are inferred. A process cannot be observed; observation of discreet behaviour on a given point of time, repeated in sequence over a period of time, when conceptually linked up and integrated, the idea of a process can be developed inferentially. One does not make a movie; one takes only a shot at a time; the sequentially arranged shots make a movie. A shot can be observed.
- 2) What is observed may be particular behaviours, settings, events or things.
- 3) What is observed - the particular behaviours settings, events or things - must be relevant to the aims of diagnosis directly; or indirectly through the variables interlinked in the conceptual construct that holds the aims of the particular diagnosis.
- 4) For enabling quantification, a set of behaviours is generally obtained. This can be had by multiple measures in different settings. Composite measures can overcome the flaws of individual measures and can provide a more complete picture.
- 5) The origin of what is observed must be "in situ". If a person or persons are being observed, the person or persons must be in their natural setting as far as possible.
- 6) Observes may make subtle changes without destroying the dominant features of the natural setting. This is done to obtain greater clarity on the variable under study. But the more the setting becomes contrived, the more the process tilts towards experimental methodology.
- 7) Observes make choices in selecting what they observe and edit the observed before, during and after - knowingly or unknowingly. This property makes the observed particular and not general; the more explicit the choices the more the scope for improving the diagnosis.
- 8) All or extensive information about the observed phenomenon cannot be retained. Retention of information after meaningful reduction through careful selection and editing, is called "recording". For example, continuous video taped information by itself is not the 'record'.

It contains much useless, extraneous, irrelevant information. When the relevant portions in the film are selected, edited, extracted and retained, they become 'records'.

- 9) Records by themselves are not data. When the records are encoded, that is, simplified through ratings, categories or frequency counts, they yield data. So, the original bulk of material through recording and encoding generates data. Codes can be used during observing the phenomenon when it occurs or later, when a record is available.
- 10) An observational study may aim at only description. It can also come close to experiment when observational methods are employed for hypothesis testing or hypothesis formulation.

Some of the major reasons why the observational methods are used and when they are used are indicated next.

8.2.2 When to Use Observational Methods

The properties indicated above (8.2.1) may provide a good insight into why and when the observational methods should be used. Some of these occasions are indicated below :

- 1) When a wide range of detail and immediacy are needed;
- 2) When the observed phenomenon needs to be modular and whole;
- 3) At the preliminary stages of an investigation to obtain information and an idea about the relevant parameters of the study.
- 4) When any limitation of the subjects has to be offset, for example, when someone has to articulate his thoughts, say on values and norms, through subjective interpretation and reflection and which he is not capable of doing.
- 5) When there is over-involvement of the subject in an activity rendering him unable to articulate his action.
- 6) When the subject is not aware of the activities because they are habitual or culture determined;
- 7) When observed phenomenon is not an individual phenomenon (for example, many interpersonal and group activities may fall in this category);
- 8) When the phenomenon is fleeting and may not be noticed by the person;
- 9) When the subject's report might be distorted for defensive purposes;
- 10) When the subjects do not have the language to describe their actions.
- 11) When other methods are not adequate to bring out data on variables like beliefs, values, attitudes, norms and better data can be obtained from the "acting out" of these variables;
- 12) When data needed are on the intimate relationship between the person and the setting, the contextual background of a behaviour or on the environment in operation with the subject;

- 13) Phenomena that are complex and multidimensional, whose naturalness is likely to be significantly altered by other methods;
- 14) When individual behaviour and group setting needs to be observed;
- 15) When the variables are too dangerous to create in a laboratory; when excessive and distasteful demands need to be made of the subjects and when laboratory inductions are unrepresentative of everyday life;
- 16) When data from actual actions are more important than the thoughts and feelings or self reporting of intellectual responses which can be contaminated with errors from numerous sources;

8.2.3 What is observed

What needs to be observed emerges from the aim of the diagnosis or from the construct formulating the aim. The observed phenomena can be extremely varied in keeping with the creativity, imagination and skill of the diagnostician and the type of data that he requires; the need of the client organisation; and the resources available. Some broad indications of behaviours commonly observed are indicated in the table 8.1. These behaviours are generally classified into four groups :

- i) Non-Verbal behaviour
- (ii) Spatial behaviour
- (iii) Extra linguistic behaviour
- (iv) Linguistic behaviour

Table 8.1 : Behaviours Analysed By Observational Method

	<i>I. Process dominant</i>
	<i>A. Focussed more</i>
i) Non-behaviour	<ol style="list-style-type: none"> a) Facial expressions b) Exchanged glances c) Body movements including gestures
ii) Spatial behaviour	<ol style="list-style-type: none"> a) Interperson distance b) Spatial relationship c) Spatial perception d) Architectural perception e) Ownership, acquisition and defence of one's territory f) Conversational clustering
iii) Extralinguistic behaviour	<ol style="list-style-type: none"> a) Vocal (pitch, loudness, timber etc.) b) Temporal (duration of speaking, duration of utterances, rate of speaking, rythm, etc.)

c) Interaction (tendencies to interrupt, dominate, facilitate, inhibit, etc.)

II. Content dominant

iv) Linguistic behaviour

a) Interaction Process Analysis (IPA).

b) Interaction process scores

c) Member-leader Analysis

d) Behaviour scores system

In the above table only the observed behaviour of organisms (humans and animals) that are studied almost universally and of importance to organisational diagnosticians are mentioned. It does not include observation of phenomena other than behaviour because they are so numerous and varied. The characteristics of the setting and the context, come under observation. For example, while discussing how to uncover cultural assumptions in an organisation, Schein (1985) observes that one of the steps is "Systematic Observation and Checking" and states that "The outsider engages in systematic observation to calibrate the surprising experiences as best he can and to verify that the "surprising" events are indeed repeatable experiences and thus likely to be a reflection of the culture, not merely random or idiosyncratic events" (p. 114).

It should be clear that what has been presented so far is the basic active ingredient of observational methods. It is like grains of wheat: whether one uses that for seeds, breads or cakes is a matter of mode of working with those grains. Some diagnostic methods in which observational methods form the inner core are next discussed.

8.2.4 Diagnostic Methods Employing Observational Methods

Of the diagnostic methods mentioned in the previous unit that depend heavily on observational methods are presented here. This is not an exhaustive list but it provides an indication of applied modes. The methods are:

- Interaction process analysis
- Interpersonal behaviour analysis
- Small group interaction analysis
- Group process analysis
- Time study
- Motion study

A brief sketch is provided for these methods:

Interaction Process analysis is based on studies of peer assessment, content analysis of value statements, personality tests. Bale's work on this method is monumental, and a great development

- c) Goal setting and planning
 - 1) Organization
 - i) confrontation
 - ii) collaboration
 - 2) group
 - 3) individual performance
 - 4) career
 - 5) life
- d) Organization and environment
 - 1) socio-technical systems
 - 2) differentiation - integration

Taking into account a large number of interventions they can be organised in terms of focus and purpose. The focus of the intervention could be on.

A table is presented below in which foci are :

- a) Individual - intrapersonal
 - Interpersonal
- b) Group
- c) Intergroup
- d) Organisation
- e) Outside environment

and the purpose of the intervention can be

- a) Process centred
- b) Action centred
- c) Feedback centred.

This has been presented below in a matrix form in tables 9.2 and 9.3.

9.2 : INTERVENTION MATRIX

Focus of Intervention	Problem Diagnosis Centred Intervention	Process Centred Intervention	Solution of Action Centred Intervention
Intrapersonal Internal "music" helping or hindering a person's	- Diagnostic instruments e.g., FIRO and LIFO	- Meditation - Time management	- Career of life planning action plan