

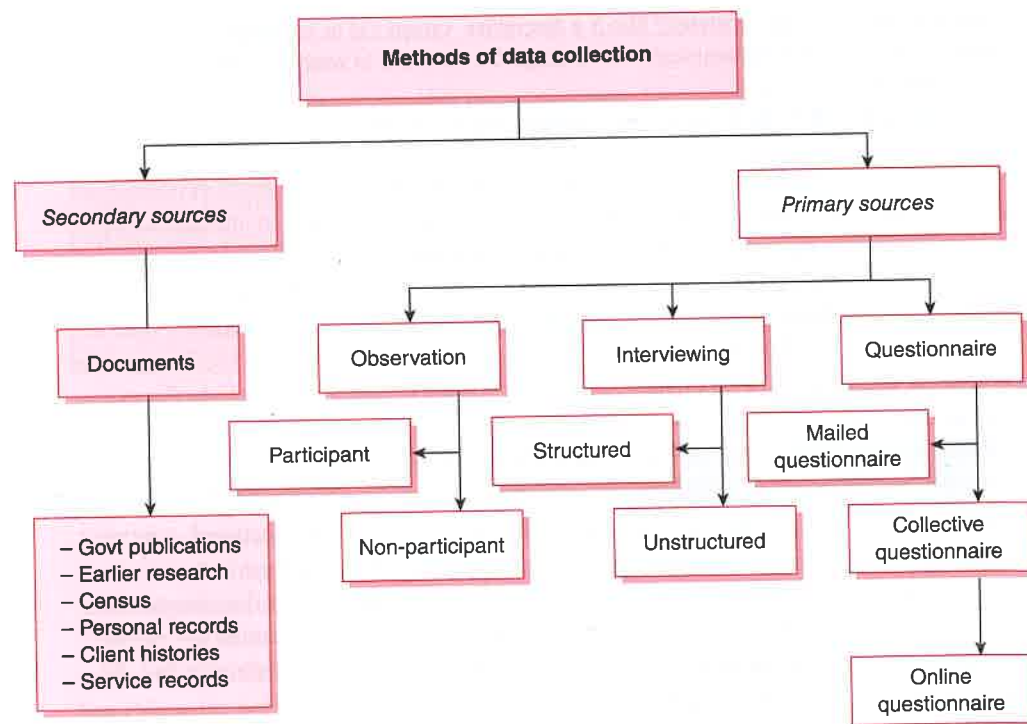


Figure 9.1 Methods of data collection

a census to obtain information on the age–sex structure of a population, the use of hospital records to find out the morbidity and mortality patterns in a community, the use of an organisation’s records to ascertain its activities, and the collection of data from sources such as articles, journals, magazines, books and periodicals to obtain historical and other types of information, are all classified as information obtained from secondary sources. In summary, primary sources provide first-hand information and secondary sources provide second-hand data. Figure 9.1 shows the various methods of data collection.

None of the methods of data collection provides 100 per cent accurate and reliable information. The quality of the data gathered is dependent upon a number of other factors, which we will identify as we discuss each method. Your skill as a researcher lies in your ability to take care of the factors that could affect the quality of your data. One of the main differences between experienced and amateur researchers lies in their understanding of, and ability to control, these factors. It is therefore important for a beginner to be aware of them.

Collecting data using primary sources

Several methods can be used to collect primary data. The choice of a method depends upon the purpose of the study, the resources available and the skills of the researcher. There are times when the method most appropriate to achieve the objectives of a study cannot be used because of constraints such as a lack of resources and/or required skills.

In such situations you should be aware of the problems that these limitations impose on the quality of the data.

In selecting a method of data collection, the socioeconomic-demographic characteristics of the study population play an important role. You should know as much as possible about characteristics such as educational level, age structure, socioeconomic status and ethnic background. If possible, it is helpful to know the study population’s interest in, and attitude towards, participation in the study. Some populations, for a number of reasons, may not feel at ease with a particular method of data collection (such as being interviewed) or comfortable with expressing opinions in a questionnaire. Furthermore, people with little education may respond differently to certain methods of data collection compared to people with more education.

Another important determinant of the quality of your data is the way the purpose and relevance of the study are explained to potential respondents. Whatever method of data collection is used, make sure that respondents clearly understand the purpose and relevance of the study. This is particularly important when you use a questionnaire to collect data, because in an interview situation you can answer a respondent’s questions but in a questionnaire you will not have this opportunity.

In the following sections each method of data collection is discussed from the point of view of its applicability and suitability to a situation, and the problems and limitations associated with it.

Observation

Observation is one way to collect primary data. It is a purposeful, systematic and selective way of watching and listening to an interaction or phenomenon as it takes place. There are many situations in which observation is the most appropriate method of data collection; for example, when you want to learn about the interaction in a group, study the dietary patterns of a population, ascertain the functions performed by a worker, or study the behaviour or personality traits of an individual. It is also appropriate in situations where full and/or accurate information cannot be elicited by questioning, because respondents either are not co-operative or are unaware of the answers because it is difficult for them to detach themselves from the interaction. In summary, when you are more interested in the behaviour than in the perceptions of individuals, or when subjects are so involved in the interaction that they are unable to provide objective information about it, observation is the best approach to collecting the required information.

Types of observation

There are two types of observation:

1. participant observation;
2. non-participant observation.

Participant observation is when you, as a researcher, participate in the activities of the group being observed, in the same manner as its members, with or without their knowing

that they are being observed. For example, as a student of occupational therapy, you are interested in studying reactions of the general population towards people in wheelchairs. To do so, you pretend to have a handicap that requires you to use a wheelchair. As you use the wheelchair in a public area you observe the reactions of people you encounter. You make appropriate observational notes for your study when appropriate. Or suppose you want to study what it means to be prisoner and to do so, one way or another, you become a prisoner to achieve your aim. You live exactly the way other prisoners live and collect the information required to achieve the objectives of your study. Or suppose you want to study a tribe in some remote area and to do so you go and live with them and collect the data you need. Many anthropological studies have been conducted by using this approach.

Non-participant observation, on the other hand, is when you, as a researcher, do not get involved in the activities of the group but remain a passive observer, watching and listening to its activities and drawing conclusions from this. For example, you might want to study the functions carried out by nurses in a hospital. As an observer, you could watch, follow and record the activities as they are performed. After making a number of observations, you could draw conclusions about the functions nurses carry out in the hospital. Any occupational group in any setting can be observed in the same manner.

Problems with using observation as a method of data collection

The use of observation as a method of data collection may suffer from a number of problems, which is not to suggest that all or any of these necessarily prevail in every situation. But as a beginner you should be aware of these potential problems:

- When individuals or groups become aware that they are being observed, they may change their behaviour. Depending upon the situation, this change could be positive or negative – it may increase or decrease, for example, their productivity – and may occur for a number of reasons. When a change in the behaviour of persons or groups is attributed to their being observed it is known as the **Hawthorne effect**. The use of observation in such a situation may introduce distortion: what is observed may not represent their normal behaviour.
- There is always the possibility of **observer bias**. If an observer is not impartial, s/he can easily introduce bias and there is no easy way to verify the observations and the inferences drawn from them.
- The interpretations drawn from observations may vary from observer to observer.
- There is the possibility of incomplete observation and/or recording, which varies with the method of recording. An observer may watch keenly but at the expense of detailed recording. The opposite problem may occur when the observer takes detailed notes but in doing so misses some of the interaction.

Situations in which observations can be made

Observations can be made under two conditions:

1. natural;
2. controlled.

Observing a group without interfering in its normal activities, is referred to as observation under natural conditions. Introducing a stimulus to the group for it to

react to and observing the reaction is referred to as observation under controlled conditions.

Recording of observations

There are many ways of recording observations. The selection of a method of recording depends upon the purpose of the observation. The way an observation is recorded also determines whether it is a quantitative or qualitative study. Narrative and descriptive recording is mainly used in qualitative research, but if you are doing a quantitative study you would record an observation in categorical form or on a numerical scale. Keep in mind that each method of recording an observation has its advantages and disadvantages.

In *narrative* recording the researcher records a description of the interaction in his/her own words. Such recording clearly falls in the domain of qualitative research. Usually, the researcher makes brief notes while observing the interaction and then, soon after completing the observation, makes detailed notes in narrative form. In addition, some researchers may interpret the interaction and draw conclusions from it. The biggest advantage of narrative recording is that it provides a deeper insight into the interaction. However, a disadvantage is that an observer may be biased in his/her observation and, therefore, the interpretations and conclusions drawn from the observation may also be biased. In addition, interpretations and conclusions drawn are bound to be subjective, reflecting the researcher's perspectives. Also, if a researcher's attention is on observing, s/he might forget to record an important piece of interaction. Furthermore, in the process of recording, part of the interaction may be missed. Hence, there is always the possibility of incomplete recording and/or observation. In addition, when there are different observers the comparability of narrative recording can be a problem.

Some observers may sometimes prefer to develop a *scale* in order to rate various aspects of the interaction or phenomenon. The recording is done on a scale developed by the observer/researcher. A scale may be one-, two- or three-directional, depending upon the purpose of the observation. For example, in the scale in Figure 9.2 – designed to record the nature of the interaction within a group – there are three directions: positive, negative and neutral.

The main advantage of using scales in recording an observation is that you do not need to spend time on taking detailed notes and can thus concentrate on observation. On the other hand, one problem with using a scale is that it does not provide specific and in-depth information about the interaction. In addition, it may suffer from any of the following errors:

- Unless the observer is extremely confident of his/her ability to assess an interaction, s/he may tend to avoid the extreme positions on the scale, using mostly the central part. The error that this tendency creates is called the **error of central tendency**.
- Some observers may prefer certain sections of the scale in the same way that some teachers are strict markers and others are not. When observers have a tendency to use a particular part of the scale in recording an interaction, this phenomenon is known as the **elevation effect**.
- Another type of error that may be introduced is when the way an observer rates an individual on one aspect of the interaction influences the way s/he rates that individual on another aspect of the interaction. Again something similar to this can happen in teaching when a teacher's assessment of the performance of a student in one subject may influence his/her rating of that student's performance in another. This type of effect is known as the **halo effect**.

Sometimes an observer may decide to set down his/her observations using *categorical recording*. The type and number of categories depend upon the type of interaction and the observer's choice about how to classify the observation. Examples are passive/active (two categories); introvert/extrovert (two categories); always/sometimes/never (three categories); or strongly agree/agree/uncertain/disagree/strongly disagree (five categories). The use of categories to record an observation may suffer from the same problems as those associated with scales.

Observations can also be recorded using a video camera or other *electronic devices* and then analysed. The advantage of recording an interaction in this way is that the observer can see it a number of times before interpreting an interaction or drawing any conclusions from it and can also invite other professionals to view the interaction in order to arrive at more objective conclusions. However, one of the disadvantages is that some people may feel uncomfortable or may behave differently before a camera. Therefore the interaction may not be a true reflection of the situation.

The choice of a particular method for recording your observation is dependent upon the purpose of the observation, the complexity of the interaction and the type of population being observed. It is important to consider these factors before deciding upon the method for recording your observation.

The interview



Interviewing is a commonly used method of collecting information from people. There are many definitions of interviews, but it is essentially a person-to-person interaction, either face to face or otherwise, between two or more individuals with a specific purpose in mind. According to Monette et al. (1986: 156), 'an interview involves an interviewer

A study of the nature of interaction in a group

Aspects of interaction	Positive ←					Neutral	→ Negative				
Participation	5	4	3	2	1	0	1	2	3	4	5
Rapport	5	4	3	2	1	0	1	2	3	4	5
Confidence	5	4	3	2	1	0	1	2	3	4	5
Aggressiveness	5	4	3	2	1	0	1	2	3	4	5
Withdrawnness	5	4	3	2	1	0	1	2	3	4	5
Friendliness	5	4	3	2	1	0	1	2	3	4	5
Aloofness	5	4	3	2	1	0	1	2	3	4	5

Figure 9.2 Observing/recording group interactions on a three-directional rating scale

reading questions to respondents and recording their answers'. According to Burns (1997: 329), 'an interview is a verbal interchange, often face to face, though the telephone may be used, in which an interviewer tries to elicit information, beliefs or opinions from another person'.

When interviewing a respondent, as a researcher, you have the freedom to decide the format and content of your questions, choose how to word them, decide how you want to ask them and in what order. The process of asking questions can be either very flexible, where you as the interviewer have the freedom to think about and formulate questions as they come to your mind around the issue being investigated, or inflexible, where you have to keep strictly to questions decided on beforehand – including their wording, sequence and the manner in which they are asked. Interviews are classified into different categories according to this degree of flexibility as in Figure 9.3.

Unstructured interviews

The main strength of an **unstructured interview** lies in having almost complete freedom in terms of its structure, contents, question wording and order. You are free to ask whatever you want, and in a format that is relevant to the situation. You also have complete freedom in terms of the wording you use and the way you explain questions to your respondents. You may formulate questions and raise issues on the spur of the moment, depending upon what occurs to you in the context of the discussion.

Unstructured interviews are extremely useful in exploring intensively and extensively and digging deeper into a situation, phenomenon, issue or problem. They provide varied and in-depth information and are best suited to identifying diversity and variety. However, their disadvantage lies in the high level of skills they require in conducting them.

Unstructured interviews are prevalent in both quantitative and qualitative research. The difference is in how information obtained through them in response to your questions

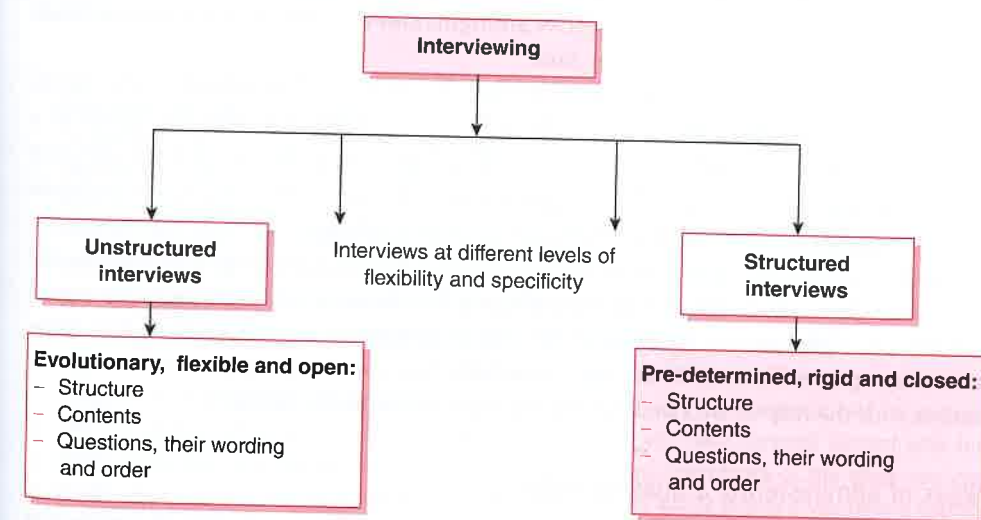


Figure 9.3 Types of interview