



Data collection

Data can be collected in four ways

1 Documentary sources

Documents can be used to set an idea in a historical context or as the basis for an entire study. A wide variety of documents can be used, e.g. the Census of Population, available from the Central Statistics Office, personal documents, photographs and maps – available from www.ordnancesurvey.ie (ROI) or www.ordnancesurvey.co.uk (NI).

2 Observations

This is one of the primary methods of collecting data, but care must always be taken to ensure that the data is observed in an unbiased way.

The observer's senses may not be able to record everything. Also, if the observer is watching people, animals or other organisms whose behaviour changes because they are being observed, the results may be invalid.

3 Surveys

Questionnaires, interviews and schedules are some of the techniques used in conducting survey work. Questionnaire design merits great attention. It is very important to think through how you are going to analyse the results you will get. Your questions should be clear, concise and should gather the relevant information.

4 Tests, measurements and experiments

These should only be used if they are relevant to your research and if you are capable of doing and understanding them yourself. Particular attention should be given to the design of experiments, the requirement for controls, sufficient replication and repeat experiments where appropriate. Ensure that any testing or experimentation you undertake is not dangerous i.e. it does not put yourself or others at risk of injury or disease.

Guidelines on sampling

Remember to use a representative sample.

Stratified sampling

The idea of using groups or classes within the population being analysed.

Random sampling

A random sample means that every member of a population had an equal chance of being chosen, e.g. pulling numbers from a hat.

Quota sampling

If you want to interview, for example, 200 people about shopping, you could go to a particular part of town where you could meet shoppers.

Systematic sampling

A systematic sample takes every nth member from a population.

Case studies

These look at a small number of individuals and a particular context in depth, may be useful in helping us understand how a particular process works.

Guidelines on statistics

What techniques can you use to analyse data?

You could summarise your data

This procedure means what it says. It is a way of reducing the bulk of data to a more manageable size, as well as seeing some patterns emerging.

You could try to explain patterns which emerge, using comparison techniques

These techniques are widely used to compare variables.

You could carry out a significance test e.g. a t-test

Significance tests are used to make sure that results from comparing data sets are not the result of chance.