MedinaValley Centre
ENVIRONMENTAL
& OUTDOOR EDUCATION

Sampling Strategies

It is impossible for a student undertaking some research to record every piece of data possible. Therefore, as part of the design of a method, students should discuss how much data they plan to collect and the strategy they will deploy to work out which bits of data they will try to collect and which they shall ignore. This is known as a **Sampling Strategy**.

Generally, the larger the sample size, the easier it can be to find patterns and meaningful results. However, if you aim to make your sample too large, you may find you run out of time or patience to make that number possible.

There are three common sampling strategies used:

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1. Random Sampling   Data is collected in an unplanned and casual manner. For example:
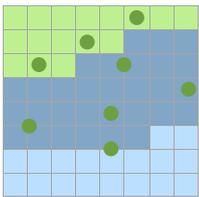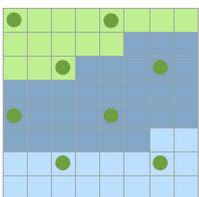
When selecting locations on a map either a grid reference is found through using a random number generator or points selected blind.

When selecting people to whom to ask a questionnaire, the student approaches people as they come across them

One advantage of using random sampling is that, if carefully managed, it can successfully remove bias from the data collection method. However, random sampling is not a suitable sampling strategy for situations where the sampling frame (the total pool of data) itself is very small.

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2. Systematic Sampling   Data is collected in coherence to a strict plan. For example:
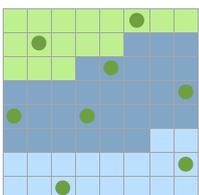
When selecting locations on a map, the sample points are chosen in a grid like pattern or, for example, through selection of every nth street etc.

When selecting people to whom to ask a questionnaire, the student approaches every nth person they come across or indeed try to interview everyone they see.

Systematic sampling is, again, seen as being a system that is without bias as samples are selected to a predetermined plan that is followed without compromise. This strategy is very clear and easy for the research student to follow and can be managed alongside a prearranged idea of a sample total.

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3. Stratified Sampling   Data is collected using a weighted method in line with a pre-known set of circumstances for the sampling frame. For example:

When selecting locations on a map, where the land use differs it, samples are selected so that they are weighted to the same inequalities found in that land use.

When selecting people to whom to ask a questionnaire, and a known distribution (such as age structure) is known of the population, samples are selected so they are weighted to that same distribution.

It is advantageous to use stratified sampling as the results obtained at the end of the study can be said to be truly representative of the overall sampling frame. However, prior to carrying out the data collection, the weighting needs to be calculated from existing secondary data, which may not always be readily available.