Below is a detailed glossary of some of the key terms students should think about as they analyse quantitative enquiry data.

Correlation The relationship between two variables, often gained by plotting data from the two variables graphically in a scattergraph. Correlation can be expressed through both direction (whether there is a positive or negative correlation between the two variables) and through magnitude (whether the correlation is strong or weak).

Descriptive statistics The use of simple mathematics to describe the sample of data. Examples include measures of central tendency (calculating the mean, mode and median of a sample) and measures of dispersion (such as standard deviation).

Distribution The way that data is spread out between its lowest and highest values. A normal distribution is where there are equal frequencies of values either side of the mean value. A skewed distribution is where there are a greater frequency of certain values on one side of the mean compared to the other.

Inferential statistics The use of statistical tests to show whether there is relationship between (or within) data sets, a statistically meaningful difference between data sets or the probability that sample data aligns with a hypothesis.

Hypothesis The predicted outcome of an enquiry, usually in the form of a statement. This can either be a null hypothesis (that there is no relationship or significance in the data sets) or an alternative hypothesis (there is a relationship or significance in the data sets). Enquiries usually seek to reject the null hypothesis and accept the alternative hypothesis.

One and two tailed tests One-tailed testing is a style of a statistical test that is used when the hypothesis specifies a direction, i.e. that the correlation between data sets will be either positive or negative. Two-tailed testing is a style of statistical test that is used when the hypothesis does not specify a direction i.e. that there either will or will not be a correlation.

Probability The likelihood that a geographical hypothesis, process or outcome will, or will not happen. It is generally expressed as a figure between 0 (no likelihood) to 1 (certainty).

Sampling It is impractical to collect all the possible data that is available to the researcher (known as the population). Therefore a sample of data is collected - a subset of the population that is easier to manage. The method a researcher uses to choose which sample of data on which to collect data is known as the sampling strategy.

Significance testing A test of the result of a statistical test to show the extent to which the results are likely to have been the result of coincidence. A significance level of 0.05 shows that there is a 95% probability that the results did not come about by chance and coincidence.

Variable A characteristic found in a population of data that varies and can be expressed as a number of values. Dependent variables are those that depend on another variable (the independent variable) to show differences. Independent variables are those that cause a change in another variable (the dependent variable).